Towards More Rational Planning
With Reference to
Monitoring and Urban Open Space

BY

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RELEASE FORM

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TO MONITORING AND URBAN OPEN SPACE

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to Monitoring and Urban Open Space

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ABSTRACT

This thesis set out to find a more rational planning process that would incorporate two basic ideas: a monitoring system, and an application of planning theory to urban open space. The problem was that present theory did not seem to be adaptable to change, nor did plans resulting from present planning theory prove useful since they represented static plans. A rational theory was felt to be needed which would enable planners not only to control development of the planning process, but also would enable them to work through a plan to discover the needs and values of people in relation to urban open space. The search would be for components of a planning theory which would make that theory adaptive, continuous and dynamic.

The method of study was done by reviewing the literature and making a critical evaluation of it. In addition to this, experts who plan urban open space were consulted as to how urban open space planning could be improved. Then, through a synthesis of the information gained through these two methods, a number of conclusions were reached.

A rational planning process would incorporate five subprocesses, all used equally, over time. These subprocesses are interrelated, but can be broken into components. They are: system description, goal situation, alternative evaluation, implementation strategy and monitoring. They take place over a series of time sequences which are called in order: initiation phase, learning phase, adjustment phase, confirmation phase and ongoing phase. It is hoped that if the theory is applied, it will be successful in making provision of adequate open space for the planned urban area.

TABLE OF CONTENTS

CHAPTER PAGE

1. INTRODUCTION AND STUDY METHODS 1
    - 1.1. Introduction 1
        - 1.1.1. Background to the Study 1
        - 1.1.2. Statement of the Problem 10
        - 1.1.3. Purpose of the Study 11
        - 1.1.4. Delimitation of the Study 12
        - 1.1.5. Limitations of the Study 12
        - 1.1.6. Definition of Terms 12
    - 1.2. Methodology 16
        - 1.2.1. Literature Review 16
        - 1.2.2. Content Analysis 16
        - 1.2.3. Focused Interview 16
        - 1.2.4. Synthesis 19
2. SURVEY OF URBAN OPEN SPACE 21
    - 2.1. Introduction 21
    - 2.2. Man's Relationship with Urban Open Space . . . 21
        - 2.2.1. Physical Relationship 21
        - 2.2.2. Recreational Relationship 23
        - 2.2.3. Economic Relationship 28
        - 2.2.4. Summary 32
    - 2.3. The Actors in Urban Open Space 34
    - 2.4. Provision of Open Space 37
    - 2.5. The Future of Open Space 42

CHAPTER PAGE

3. ALTERNATIVE PLANNING MODELS AND APPROACHES 47

- 3.1. Introduction 47
- 3.2. Evaluation of Present Planning Methods . . . 50
  - 3.2.1. Blueprint Planning 50
  - 3.2.2. Process Planning 52
  - 3.2.3. Rational Comprehensive Planning . . 55
  - 3.2.4. Disjointed Incrementalism 56
  - 3.2.5. Normative Planning 59
  - 3.2.6. Functional Planning 60
  - 3.2.7. Advocacy Planning 62
  - 3.2.8. Conclusion 64
- 3.3. Subprocesses of Planning 70
  - 3.3.1. System Description 70
  - 3.3.2. Goal Situation 72
  - 3.3.3. Alternative Evaluation 77
  - 3.3.4. Implementation Strategies 81
  - 3.3.5. Monitoring 83
  - 3.3.6. Summary of Planning Subprocesses . . 84
- 3.4. More Recent Planning Approaches 85
  - 3.4.1. More Recent Variations on the Rational Comprehensive Approach . . 85
  - 3.4.2. Recent Variations on the Process Approach 88
- 3.5. Time 94
  - 3.5.1. Initiation Phase 95
  - 3.5.2. Learning Phase 95

CHAPTER PAGE

3.5.3. Adjustment Phase 96
3.5.4. Confirmation Phase 96
3.5.5. Ongoing Phase 96
3.6. Conclusion 97
4. EVIDENCE OF MONITORING IN PLANNING 99
4.1. Introduction 99
4.2. Redefinition of Monitoring 104
4.3. The Start 107
4.4. The Environment 110
4.4.1. Indicators 111
4.4.2. Methods of Measurement 114
4.5. The Management of Monitoring 118
4.6. Conclusion 120
5. A SUGGESTED FRAMEWORK FOR URBAN OPEN SPACE PLANNING . 121
5.1. Introduction 121
5.2. Initiation Phase 125
5.2.1. System Description 125
5.2.2. Monitoring 126
5.2.3. Goal Situation 127
5.2.4. Alternative Assessment 127
5.2.5. Implementation 128
5.3. Learning Phase 129
5.3.1. System Description 129
5.3.2. Monitoring 129
5.3.3. Goal Situation 130

CHAPTER PAGE

5.3.4. Alternative Assessment 130

5.3.5. Implementation 131

5.4. Adjustment Phase 132

5.4.1. System Description 132

5.4.2. Monitoring 132

5.4.3. Goal Situation 133

5.4.4. Alternative Assessment 133

5.4.5. Implementation 134

5.5. Confirmation Phase 134

5.5.1. System Description 134

5.5.2. Monitoring 135

5.5.3. Goal Situation 135

5.5.4. Alternative Situation 135

5.5.5. Implementation 135

5.6. Ongoing Phase 136

5.6.1. System Description 136

5.6.2. Monitoring 136

5.6.3. Goal Situation 136

5.6.4. Alternative Assessment 136

5.6.5. Implementation 137

5.7. Conclusion 137

BIBLIOGRAPHY 139

APPENDIX A. DEFINITION OF TERMS 153

APPENDIX B. FERGUSON'S DIAGRAM OF THE PLANNING PROCESS . 159

APPENDIX C. CONTENT ANALYSIS 161

LIST OF TABLES

Table		Page
I	Focused Interview	18
II	Comparison by Modes of Planning	68
III	Identification of Major Subprocesses in New Rational Comprehensive Mode of Planning	89
IV	Identification of Major Subprocesses in the New Process Mode of Planning	92
V	The Planning Process	123

LIST OF FIGURES

Figure		Page
I	Urban Open Space as a Resource	41
II	Urban Open Space Planning Model on the Blueprint versus Process Planning Continuum	54
III	Urban Open Space Planning Model on the Rational Comprehensive versus Disjointed Incrementalist Continuum	59
IV	Urban Open Space Planning Process contains both Normative versus Functional Continuum	62
V	The Process of Goal Reduction	74
VI	A Recreation Management System	101
VII	The Planning Process	122

CHAPTER I

INTRODUCTION AND STUDY METHODS

1.1. Introduction

1.1.1. Background to this study

This study was undertaken to explore the possibilities of a more rational planning process, incorporating monitoring applicable to urban open space. The search for an urban open space planning process had led the researcher to consider the origins of both urban open space and planning theory. Recent planning models have developed from these origins. This study investigates these recent models in an effort to discover whether a more complete urban open space planning model can be built from them. Faludi summarizes the intent of the search.

> I therefore believe that the efforts of building planning theory also includes the search for what planning is about. (Faludi, 1973, p.1X)

The concern here is to relate this search specifically to the subject of urban open space. The question of whether urban open space planning is necessary is part of this research. The initial question may be posed as follows. If society has managed without urban open space planning up to the present time, can it continue to do so? The answer from the majority of research undertaken is that it is necessary.

Urban open space means different things to different people. It may be an aspect of a city's form with effects on the human dimensions of that city's life. It may be important to a city's functioning. If one understands the need for urban open space, the development of a relevant planning model should be easier than otherwise.

Simonds (1961, pp.18-36) has traced the development of gardens in Ancient Greece and Rome. Open space in populated areas was found in the agora, the gymnasium, the theater and special groves. The origins of these examples of urban open space may have been in the Hunting Gardens in Persia, although this is not readily evident. Simonds further traces development of what would now be called 'urban open space' in medieval European countries. During the time of the Roman Empire and in a later period, Italy had its villas. France had the open land preserves of the nobles and the rich, later to be divided by the radiating avenues of Versailles and Vaux-le-Vicomte. In England, naturalistic park landscaping developed under the influence of Lancelot Brown and William Kent. Across the Atlantic, in the United States, the Romantic Idiom enhanced the flavor of the beauties of natural landscapes, woods and plantations.

Later, in the United States, Frederick Law Olmsted, who was to become a great influence in urban open space design, entered practice in 1856. He emphasized nature as a contrast to urbanism (Simutis, 1972). This early impetus to the provision of open space in cities, to counteract overcrowding and create a more rustic environment in urban areas, also came from such people as Ebenezer Howard in England, through his book, Garden Cities of Tomorrow, which was originally printed in 1898 as Tomorrow: A Peaceful Path to Real Reform. Howard had a picture of what he thought a city should be like. He suggested limiting population size to 30,000 in an area of 600 acres. Open space was an integral part of his proposals.

Howard's theories were spread by his followers, Unwin and Osborn, who influenced developments in which open space, along with the concept of 'green belts', were intended to prohibit the growth of cities beyond a fixed size (Buder, 1969, pp.390-481). This influence spread to the North American continent, and was adopted by Clarence Stein and Henry Wright who built the community of Radburn, not as a strict application of Howard's ideas, but as a design influenced by him and his followers (Platt, 1972, p.25).

Le Corbusier (1887-1965) and Frank Lloyd Wright (1869-1959) were others who viewed the provision of open space as a remedy for all that was wrong with the modern city (Platt, 1972, pp.15-20; Grabow, 1977, pp.115-124). Le Corbusier was copious in his use of open space in his designs, as much as ninety-five percent of total land in his central city was open space. This was judged by Platt (1972, p.20) to cause the city of Chandigarh, designed by Le Corbusier, to be 'tedious'. The open space in this city was not useful. Planning, Platt suggested, must consider use.

In 1944, Abercrombie prepared the Greater London Plan. This included a chapter on open space. It was essentially a blueprint plan for a vast and complicated network of open spaces in London. He felt that 'every inch of available or existing open space needs to be guarded'. He did not however suggest a planning method for this to be done.

Abercrombie's method of providing a detailed blueprint plan has been copied. Evidence of similar plans can be found in modern "Master Plans". The Edmonton (Alberta) Parks and Recreation Master Plan, 1979-1983, has pictures of open space similar to those of Abercrombie, in that it contains maps outlining the locations of existing open space. The concern of the Edmonton Master Plan adds the socio-psychological needs of people, however, with its concern for 'personal growth and development' (p.95). It does not suggest a planning method to attain goals, standards and designs set out in the plan.

Robert Mitchell (1961, p.170) says:

> Too often the plan for the future is but a timid cleaning up of the existing pattern in which the planner's often remarked passion for neatness and order drives him toward use segregation.

Two things are evident from the above short history of urban open space. The first is the simple recognition of the continuing presence of open space connected with man's habitation. The second is the steady development of planning theory, and the recognition of the need to plan for provision of open space. The need to plan for growth, and to adapt to new technology was not, however, evident.

The problem may have been that Abercrombie and the other planners were planning for the future under two assumptions. The primary assumption was to the effect that growth would be limited in scale. Le Corbusier and Wright were Utopian in their ideologies, both assuming that open space by itself was good. The second assumption was inherent in the notion that major variables that influence the development of the urban area such as technology would remain the same. Ebenezer Howard did not envisage the significant impact of the automobile upon urban form.

Unlike these earlier approaches, present models of planning do not tend towards utopian goals. They do, however, employ static planning and intuition, which are copied from these 'old-fashioned' models. The ability to adapt to change in technology is not evident. Gold (1979, p.52) predicts that in the near future this type of static intuitive planning may have to be replaced.

> ......after years of romanticism, professionals are beginning to cope with reality. Changing values, technology, the energy crisis, and inflation are forcing cities to do out of necessity what they might have done by choice. The traditional approach to providing open space and leisure services, long dominated by the use of arbitrary standards, out moded concepts and conventional wisdom, is being challenged as never before in literature and practice.

The planner may consider past ideologies, but needs to develop a planning process which can cope with new technologies.

The urban open space planner should be aware that he is planning for people. Open space is meaningful to them. If open space has little value to people, then it will likely be converted to another use. Another need, then, is for the urban open space planner to involve the public in the planning process and, hence, in its outcomes. Gold notes (1972) this in his article, "The Non-use of Neighborhood Parks". Jane Jacobs (1961, p.110) states it as follows:

> American cities today, under the illusion that open land is an automatic good and that quantity is equivalent to quality, are frittering away money on parks, playgrounds and project land-oozes too large, too frequent, too perfunctory, too ill-located and hence too dull or too inconvenient to be used.

The planner must recognize that urban open space needs to be considered with great care. The planner has a choice. For one thing, he can accept open land as an 'automatic good'. The logical conclusion from this is that planning for urban open space is not worthy of investment. It may be too risky to throw money and manpower into the complex and misunderstood urban open space planning process. In contrast is the more optimistic approach. This looks upon the city as containing the people, the resources, the financing, the talent and the political support to develop a useful open space plan. If the more optimistic approach is chosen, a planning model will need to be developed which is beneficial in that it considers and uses resources within the community.

Resources and their use become even more important when the need for support for the notion of urban open space planning is considered. The status of urban open space in general urban planning seems to be high. In practice, however, it is usually the final consideration, after all other uses of land have been decided. Platt suggests that:

> ....to many a land use planner, open space is what is left over after all the 'higher' uses have been accommodated. (Platt, 1972, p.1)

Others have observed that open space within the city is often looked upon as being "negative - the absence of something" (Clawson, 1969, p.39), or as "wasted space" (Silverstone, 1974, p.2). Isabel Cosgrove (1972, p.13) notes that recreation planning has been largely neglected, particularly in urban areas. Arguments like these can be redressed by a planning theory that is built to monitor the needs and values of the community. These needs and values will identify the issues with which planning theory must deal.

The argument that open space has no value is contradicted by the need to consider and protect certain areas that have sensitive ecosystems and low tolerance to intrusion from man. McHarg suggests in Design With Nature, that man must look at the world from a viewpoint other than that of an anthropocentric base. Land can have other values than those derived from its development or exploitation. For example, there is the beauty of undeveloped areas that prevent erosion, or the usefulness of aquifer areas in supplying safe drinking water (McHarg, 1969, pp. 153-163).

In recognition of this principle as well as the increasing awareness of environmental impacts, United States legislators passed The National Environmental Protection Act. Many of the individual states passed separate environmental acts (Jackson, 1981, pers. comm.)* Some states have also passed acts to protect people from the undesirable social impacts of development. The tools derived from these pieces of legislation are Environmental Impact Assessments (E.I.A.), and Social Impact Assessments (S.I.A.). Most planners would agree that these are but the initial part of a planning process, and in some instances are overused (Brook, 1976). The environmental impact statement has been challenged as to its reliability in achieving its stated goals, its ability to protect the environment, and even the validity of measuring present conditions that foretell future impacts (Hopkins, 1977, pp.386-400; Chapin & Kaiser, 1979, Chapter 9).

In the United States the courts have recognized the legal validity of ecological or environmental factors (Brooks, 1976, p.75). In Canada this legal recognition is not yet established (Armour and Walker, 1977, p.29). Neither is the environmental impact statement accredited as a method of determination of land use where there is a legal base for environmental impact analysis, as in Ontario (Wilkinson, 1921).

Two trends that affect planning may be identified from the two different approaches taken above. The first trend is that seen in the United States. To protect the environment, legislation has been developed that makes it necessary to ensure that environmental concerns are studied and an impact assessment made before planning or development starts. This trend could be applied to any resource in the community. It is now necessary in some States to do social impact assessments before proceeding with development, (Jaakson, 1981). This trend, then, emphasizes the protection of environmental and social conditions through established legislation. This trend meets each new concern, such as those noted above, by the enactment of protective legislation.

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*pers. comm. Personal communication took place during focused interview.

The second trend can be observed in Canada, where, as yet, the trend to protective legislation has not developed. Here, reliance is placed on the competence of the planner. The planner and his planning model take into consideration those factors that are protected by law in the previous trend. This approach is adaptive by nature. It can show a sensitivity to the unique environmental or social needs of an area. The planner can make a conscious decision to incorporate those needs into a plan, and only develop legislation, perhaps in the form of a local bylaw, if this is clearly necessary to protect those needs.

The second trend, then provides the planner with the opportunity to develop a process that is sufficiently eclectic within our bounded rationality, to meet the physical, recreational and economic needs of a particular environment and protect them by adopting uses that may enhance these needs. Such a process would provide an assurance that all disparate views will be fairly represented in the planning process.

The last twenty years have shown the need for a stronger planning process. Conditions have changed in Canadian cities. Industrialization, improved transportation and communication have increased the concentration of population in large cities, (Poplin, 1980, pp. 240-242). Urban populations, public values and technological advances have changed needs (Roberts and Parlow, 1972, p.13). Change, it seems, is the only predictable condition.

The historical concern for the provision of urban open space, rather than its planning has been questioned (Burton, Ellis, Homenuk, 1976). Even greater pressures will be placed upon cities to accommodate higher population levels (Wright, 1976, p.23; 1974, p.30; Doxiadis, 1966, p.70). These pressures will cause a number of problems if planners are unable to provide, develop and implement a planning process that will enable society to cope. The provision of adequate open space for the future needs of the populations of Canadian cities is the concern of this study. All individuals associated with open space have undoubtedly formed attitudes toward open space issues. These attitudes must be understood in order to build a strong base for a plan, and to enable solutions to be found to problems created by increasing pressures on urban open space.

The need to reach goals without wasting time or resources is currently evident in the United States where funds for parks are being withdrawn by the federal government (Godbey, 1981). A lower level of provision of funds means that the building and provision of parks will be less likely to take place unless effective and efficient planning occurs. Priority for open space is usually lower than for other urban needs, as noted by Platt and other authors. This suggests that future uses of urban open space may have to change, with the multipurpose use and provision of multipurpose facilities perhaps replacing single use facilities. Such concerns as the lack of financial resources and the priority assigned to urban open space should be taken into account in any planning process.

A study is proposed, then, which will develop, through analyses and syntheses of present practices, a strong, efficient, adaptive planning process. Such a study will serve as the basis for the determination of needed revisions to present urban open space planning theory and practice. It will also seek to develop, out of present planning processes, a comprehensive urban open space planning model. This thesis will, it is hoped, make a contribution to the improvement of planning process and theory, so that urban open space may be provided and adapted in such a way as to serve the needs of the population and area in which it is situated.

1.1.2. Statement of the Problem

Planners plan. But to plan they must have a planning process. An urban open space planning process should be able to control the development and future state of urban open space. Such a planning process will need to be adaptive to the changing demands of our present world. Present processes do not appear to allow planners to adapt easily to changing conditions.

Here is a question. Is there a planning process the planner can use which will enable him to meet the present and forecasted demands for urban open space? The answer may be found in part through a study of the attitudes to planning of recognized experts in the field of urban open space planning. It may also be found, in part, through a review of the development of present planning processes. It can also be derived from a specific identification and evaluation of prevailing issues which are related to urban open space planning. The problem is that no such planning process exists at present which has the characteristics mentioned. They are the ability to control the development and future state of urban open space, the ability to adapt to future technological and social change, the ability to incorporate within the theory a guidance or monitoring system.

1.1.3. Purpose of the Study

The purpose of this study is to develop a proposed urban open space planning process. This is to be done through analysis and synthesis of the views of authors of books and articles on planning, and of current planners and others who have an interest in urban open space generally.

A review of prevailing issues surrounding the provision and planning of open space is to be done. The identification of these issues is intended to assist the development of a planning process. The study will also afford a comparison of planning theories. The major emphasis will be upon the ways in which such theories relate to the development of the urban open space system. From this base, there will follow recommendations for a proposed planning process. This could be directed toward the resolution of planning problems faced by planners and others involved in developing urban open space.

It is contended that the elements necessary for the development of a theoretical urban open space planning process model exist in past and present literature. What is needed, therefore, is to extract those elements from that literature. The study is, therefore, a compilation of the effective parts of many theories, rather than an addition to them. The foundation is present knowledge. It is hoped that the theory compiled from the elements will be of assistance to those involved in the task of urban open space planning.

1.1.4. Delimitation of the Study

The study was confined to texts and articles determined to have relevance to several topics. First, general planning processes were reviewed. Second, specific planning processes related to urban open space were studied. Finally, evidences of monitoring found within the general or specific processes were examined.

The study was further delimited to interviews with selected experts involved in urban open space planning and provision.

1.1.5. Limitations of the Study

The limitations noted herein are common to studies where interviews are involved. When interviewing, difficulties in semantics can create a problem in communicating the meaning of a term to respondents. Some of the respondents may not have cooperated to the best of their abilities. Some respondents may reflect different biases and attitudes toward open space planning. Others may not present answers indicative of their true attitudes. Since all of the respondents have personally been involved in urban open space planning, it seems reasonable that they were sufficiently interested in the outcome of the study to give sincere and conscientious answers throughout the interview.

1.1.6. Definition of Terms

For purposes of clarification, several terms must be defined. Those discussed here are central to the study. Others, contained in Appendix A, are common to planning. They are defined in the Appendix only in the event that clarification is needed.

only in the event that clarification is needed.

Actor: The actor in the urban open space planning process may be either a single individual, or a plurality of persons. The plurality may be either a formally organized group or any one of various types of informal groups. (Green and Mayo, 1953)

Indicator: A measurable property which facilitates concise, comprehensive, and balanced judgments about the condition of society in relation to its goals within urban areas along social, economic, cultural, environmental and other related dimensions. (House, Cerba, 1975, p.202; Stuart, 1976, p.144; Stearns and Montag,1974, p.138)

Three types of indicators are noted by Stuart, (1976, p.148). They are:

Social Indicators: These are general community-wide change indicators of how well-off an urban area is. A high crime rate may indicate the need for further recreation programs or social controls.

Impact Indicators: These provide a detailed assessment of the effectiveness of public agency plans and programs, measured by cost effectiveness or by attitude change.

Performance Indicators: These provide a managerial and financial assessment of the efficiency of a program administrator.

Monitoring: .... is concerned with the collection of information about the developing state of that system to which any planning process is being addressed (Haynes, 1974, p.15). The function is present at the interface between the information field (the 'planned system'), and the problem identification function (management of the planning system). Monitoring can be seen as the information gathering component of the planning process. It supplies information on the 'actual state' of a system and allows comparison with the 'intended state' of the system. (McLoughlin, 1969, p.85)

Planning:	Many people have defined planning. The important elements of this process that should be incorporated into any definition of planning are: (a) It is future oriented. (b) It develops alternatives for more rationale decisions, (Gold, 1973, p.119). (c) It monitors the social, political and physical environment. (d) It should express some collective or group values.
The Planned System:	The planned system can be defined by its components. Ferguson (1975, diagram 55) identifies these components as the environment, the system of concern, and output as measures of change in significant system variables. (See Appendix B
The Planning System:	This system is defined as containing the planning function. Ferguson (1975, diagram 55) identifies the components contained in this system as synthesis, analysis, monitoring, regulation and information and education. The policy making function is included in both the planning system and planned system. (See Appendix B)
Urban:	This study centers on the urban area. The difficulty with defining urban areas is in distinguishing between them and rural areas. As developed in Poplin's (1979, pp.43-45) book Communities, the urban community has a number of distinguishing characteristics: (a) The urban community begins where the rural community leaves off. This depends on the population or demographic characteristics that are assigned to the rural area as compared to the urban. An example might be a cutoff point between rural/urban of 2500 population: under that number the community is rural; over it, the community is urban.* (b) Urban areas can be considered to have high population densities, with boundaries surrounding the area. Within that area are a number of small lots and numbers of multi-family dwelling units. Densities tend to be high in the central areas and lower toward the outer areas.

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* It may be noted that this distinction between rural/urban is arbitrary. An example is the Burton, Ellis, Homenuk (1977) study in which the cutoff point was 5,000 and over. Marsh (1977) suggests that in Canada any area with over 1,000 population is considered urban.

(c) The urban area can be divided into three sub-areas:

(1) The primary area surrounding the central city, consisting of high density dwellings and the central business district:
(2) The secondary area or suburbs: and
(3) The tertiary area or the area which is influenced by the presence of the city. This can include satellite cities or smaller centers which are economically dependent on the larger center.

(d) The urban area is an area in which a certain amount of anonymity is felt. There are some areas into which a person goes, where he is not known. It is therefore necessary for people to rely on the police, courts, and other regulatory bodies to provide for special control. The people in urban areas are also dependent on regulatory bodies to supply them with good planning so that they may enjoy a healthy future.

(e) The urban community is also characterized by heterogeneity in people and organizations. This heterogeneity applies to different cultural traits as well as to different socio-economic classes.

Urban Open Space: A general definition is: urban open space is all urban land or water, open to the sky, either publicly or privately owned. John B. Leicester (1978, p.76) synthesized the definitions of Clawson, Cotton, Lynch and O'Leary as follows:

> All tend to agree that it is a public or private unoccupied outdoor area (land or water) which is available and accessible to citizenry, for either visceral exploration or freely chosen recreational activity.

Burton, Ellis and Homenuk (1977, p.11) proposed another definition: for public open space:

> All public open space now in use or potentially usable for public recreation. It includes school areas that are open to the public via park school agreements, and regional open space that is an integral part of (your) community's open space.

> Other functions of open space should be added to these definitions. These other functions are conservation areas, visual or noise buffers, areas separating incompatible land uses, and linear connections between these areas. The definition would then be:
>
>> All public or private unoccupied outdoor areas (land or water) in use or potentially usable to the citizenry for either visual exploration or freely chosen recreational activity. It includes school areas and regional open space close to the city as well as conservation areas, visual or noise buffers, and linear connections between these areas.

1.2. Method

1.2.1. Literature Review

The first component of the research method of this study was a literature review as prescribed in Clarke and Clarke (1970, pp.39-60). This component was the base for further research. To form this base, literature dealing directly with open space and open space planning was reviewed. A further review of allied literature focused upon general planning processes and, specifically, with monitoring and related processes in planning.

1.2.2. Content Analysis (See Appendix C)

1.2.3. Focused Interview

A total of twelve interviews was undertaken. The first seven were held with specific people involved in some manner with the planning system or the planned system. A developer, members of several pressure/lobby groups, and an executive in the public service were interviewed. The other five interviews took place with experts in urban open space planning.

The twelve interviews ranged from barely five minutes* to two hours in length, with most taking one hour. All were conducted by the researcher. The interviews were focused since it was ensured that points in each of the five major themes were covered by the respondent. The respondent could talk at his own speed, on the subjects that most interested him, and use his own words. This is an advantage in this type of interview, as richer detail is obtained, in contrast to 'analytical precision'.

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*Only one interview lasted five minutes. It is noted because the topics discussed were relevant to this thesis.

The five major themes were:

1. The identity of the subject being interviewed, including his occupation, and the nature and activities of the organization or organizations for which he worked.

2. The subject's knowledge, awareness and perception of general planning processes.

3. The subject's experience with urban open space planning on a general and specific level.

4. The subject's awareness and knowledge of monitoring, and related activities such as evaluation and review, and use of indicators in monitoring.

5. The subject's perception of the future of urban open space planning processes.

These topics are listed in Table I in the form in which they were addressed in the interview.

After the tapes and written notes were compiled from the interviews, they were content analyzed in reference to the topics listed in Table I. The advantages that were noted under research component 2, also applied to this component. The use of an iterative process helped the researcher to find the "strength of feeling, or commitment evident in the statement," (Burton, 1981).

This study, then, describes the perceptions of the subjects regarding the urban open space planning process, and attempts to appraise the significance of these perceptions in order to develop a comprehensive

TABLE I

FOCUSED INTERVIEW

1. Identification Information
   - a. Name and occupation of the subject
   - b. Title of the organization to which the interviewee belongs
   - c. Functions and activity of the organization

2. Subject's Knowledge, Awareness and Perception of General Planning Processes
   - a. Personal thoughts on the open space planning process
   - b. Components of the process
   - c. Most significant components
   - d. Preferred type of planning process

3. Subject's Experience of the Urban Open Space Planning Process
   - a. The experience of open space planning
   - b. The realities of open space planning
   - c. The ability to get open space plans implemented
   - d. What aspects of open space planning need to be improved

4. Subject's Awareness and Knowledge of Monitoring and Related Activities
   - a. Knowledge of monitoring specifically
     - 1. The subject's definition of monitoring
     - 2. The examples of monitoring that the subject has seen
   - b. Knowledge of evaluation and review process
   - c. Knowledge of public participatory techniques
   - d. Knowledge of data collection and information dissemination to the planner
   - e. The subject's opinion of how to best handle information flow, evaluation and review, and public participation
   - f. Suggested indicators to be used in the open space planning process

5. Subject's Perception of the Future of Open Space Planning
   - a. Ideal state of open space planning process
   - b. Realistic state of open space planning process with present tools
   - c. Future directions of open space planning

urban open space planning theory.

1.2.4. Synthesis

The final research component consisted in compiling the information obtained from research components two and three. This information was then synthesized. The result of this synthesis is contained in the following chapters. A planning process has been proposed that will, it is hoped, enhance urban open space development in the future.

1.3. Organization

Chapter 1 has presented a general introduction to the subject of the study: why it was needed, and its significance. A description of the study methods is also given.

Chapter 2 presents an overview of urban open space. It discusses the role of urban open space as it relates to man, physically, economically, and in recreation. Present and potential future values of urban open space are discussed.

Chapter 3 discusses general planning processes and different models of planning. Its focus is upon the strength of the planning process, and how this process is divided into five subprocesses.

Chapter 4 analyzes the usefulness and importance of the monitoring subprocess in planning, and develops arguments for its use throughout any planning model.

Chapter 5, the final chapter of the study, presents a summary of the findings, and brings the study to a conclusion based on those findings. A derived urban open space planning model is presented. Each subprocess of the model is developed over the five sequential time phases. It is concluded that this model may be helpful to urban open space planners.

CHAPTER 2

SURVEY OF URBAN OPEN SPACE

2.1. Introduction

This chapter presents an overview of urban open space. Such space has three connections with man. They are the physical, recreational and economic relationships. By understanding these relationships, the planner may be better able to plan for the future use of urban open space. This chapter will examine these relationships and discuss current and typical approaches to urban open space provision.

2.2. Man's Relationship with Urban Open Space

At anything above basic subsistence level, no man has precisely the same needs and wants as his neighbor. This statement is a cliche. It is also a "common sense" statement, and perhaps it is said often because it is true. It is true when applied to urban open space. The desire of people for urban open space varies from individual to individual, or from individual to group. Certainly people have different relationships to open space.

2.2.1. Physical Relationship

Gold (1980, p.32) feels that the structural framework of a city, the edges, focuses, and nodes of districts and regions, are formed by use of open space. Stearns and Montag (1974, p.87) consider that open space affects the general shape, the pattern and the structure of a site, and the man-made overlay of that site. This includes natural factors such as slope, drainage and water patterns. If natural areas are sensitively designed as open space, they can give people who live in the surrounding area, a sense of identity and territoriality. Urban open space can even help to define urban form, and limit the physical size, shape or density of a city or neighborhood. For instance, density can be affected if building is allowed only where it is compatible with the area in which it is situated. On a slope of more than five degrees and up to fifteen degrees, houses can be spaced so that natural forest and groundcover can be retained. In flat areas, higher density can be achieved by building houses closer together, or by building higher density buildings such as apartments.

McHarg (1969, p.143) suggests that urban development should take place on relatively flat land. His definition of flat land covers areas with slopes of no more than five degrees. Moreover, development should be excluded from prime agricultural lands, floodplains, and aquifer recharge areas. Floodplains and aquifer recharge areas, as well as waterways, meet recreation needs, both passive and active. But, in addition, they supply a number of physical benefits. The areas provide natural drainage and peak flow storage of water. They help ventilate the atmosphere and moderate temperature. Vegetation on these lands, and on urban open space, exposes a large surface area of deciduous or evergreen foliage. This foliage traps dust from the air (Grandjean, 1973, p.132). Vegetation does not, however, produce enough oxygen to make a significant contribution to the oxygen debt (Jacobs, 1961, p.91). Woods are not the lungs of the city; three acres of woods absorb the carbon dioxide from only four people.

Urban open space pushes noise further away from the street, reflects sound waves, and absorbs high frequency sound. Absorption for a random planting is 2-5 decibels per 100 meters (Grandjean, 1973, p.135). Urban open space can also affect the micro-climate by deflection of winds (Stearnsand Montag, 1974, p.41). It can also do this by cross-ventilation of the city along radial strips of vegetation. Open space can affect temperature by providing shade, and by transpiration from plants (Grandjean, 1978, p.133).

The physical placement of open space within the city can also provide light and air to buildings, especially tall buildings in city centers and in heavily built-up areas such as those which are industrial or of high density (Clawson, 1969, p.140).

In short, physical placement of open space can serve many functions. It can protect ecological systems, human property and perhaps life. It can purify the air, help to reduce noise, and affect local weather. It can provide relief and light to heavily developed areas. An integral part of any urban open space planning process would include an analysis of where these physical characteristics are needed within a city, or how they can be used to enhance building and location of housing. The placement of urban open space may be done with care and forethought if physical relationships are considered.

2.2.2. Recreational Relationship

Use of urban open space by recreationists is seen by at least two planners as the major use of these areas (Wright, 1981, pers. comm.; Jaakson, 1981, pers. comm.). Some writers have found the use of urban open space fulfills sociological and psychological needs. A review of these writers' opinions follow.

Cheek et al (1978) studied the relationship between social groups and the use of outdoor recreational places on neighborhood, district, regional and remote levels. The study found that eighty-one percent of people visiting parks arrived in social groups before taking part in an activity. The groups were most commonly family groups, but a person could be with a friend or in a friendship group. The individual person rarely went to parks alone.

Burch (1964, 1965, 1969) has looked at the activities that take place in campsites. He found that there was a collective aspect to recreational behavior. He found, in common with Cheek et al, that the family group took part in certain activities such as sightseeing or nature study. Other activities such as fishing were more likely to be undertaken with a friend or a friendship group. He also noted that there is a play world of camping. He saw outdoor recreation as 'intrinsically rewarding'. The freedom supplied by the setting allowed the individual to express himself in different play actions. These included hunting, fishing and rock collecting, unstructured and structured play, and sociability in which all people are equal. Socializing took place with others who were also involved in camping. In 1969, he developed a theory of social circles or personal community that surrounds these activities.

Iso-Ahola (1980) drew two conclusions about outdoor recreation. The first was that outdoor recreation serves as a means of coping with environmental stress caused by crowding and other factors which he called 'urban stress factors'. He made a distinction between seeking psychological rewards or an emotional experience, and trying to avoid the stressful environment through outdoor recreation. He noted that either of these motivations will make an individual try to take part in an outdoor recreation experience. The second conclusion he drew was that, while the psychological benefits of outdoor recreation are of a temporary nature, they do improve the individual's personal and interpersonal behavior over a longer period of time. The experience is also a source of personal recollection and stimulation over future years.

Prohansky (1976, pp.171-172) argued that man is almost always a cognizing and goal-directed organism. He attempts to satisfy needs and this always involves him in interactions and exchanges with his physical environment. He tries to organize his physical environment so that it maximizes his freedom of choice. In the outdoor recreation setting, he is able to choose from many activities. His goal in the park or open space is to have a recreation experience. This experience is one which will benefit him and make him better able to enjoy his day-to-day life.

Mehrabian (1976) described how different personalities are affected by crowding or seclusion in the outdoor setting. He thereby distinguished how different people need different types of open space. In contrast, Heimstra and McFarling (1978, pp.15-16) tried to determine why people use open space, but found that the reasons are not altogether understood.

What all of these researchers recognized is that temporary interactions with open space are actively sought by many individuals and groups, and that these give them satisfaction or pleasure if the open space suits their needs.

Driver (1975, 1978) has tried to incorporate some of these findings into a social psychological definition of recreation demand. He felt that the individual's personality would have a direct effect on the recreational activity sought. Because individuals differ, the recreation activities chosen would differ. Both Driver and others have tried to make outdoor recreation opportunities as diverse as they can. It is recognized that a large part of a successful recreation experience comes from the fact that the person who is taking part in the activity believes that he has a number of choices. Clark and Stankey (1978) have devised a 'Recreation Opportunity Spectrum' to describe the range of opportunities from which recreationists can choose. The range extends from wilderness camping to modern camping, the latter providing all of the conveniences that people have at their homes.

These studies clearly demonstrate that the planner should consider the individual's need when planning urban open space. The individual is affected by the attractiveness of the setting, by the group which shares that experience, and by the opportunities provided. The conclusions of these writers can be used in a planning process, and could be developed into indicators of why people use urban open space. The indicator, for instance, could be the type of group that is using a park. The planner could project what opportunities might be demanded, or what activity choices would not be used.

As noted, the psychological benefits of open space were examined by Iso-Ahola. He concluded that outdoor recreation can relieve 'urban stress'. But, the need for outdoor recreation may extend beyond the psychological need. Marsh (1977, p.2) made the following observation:

> Today, access to outdoor recreation areas is regarded almost as a civil right, and the provision of open space is seen as necessary for the maintenance of the sound mental health of a population.

Babcock (1979, p.430) supports Marsh's statement.

> The desire to provide and protect open space remains an abiding American dream, even in the closing years of the twentieth century.

Thus, the need for a recreational relationship between man and urban open space is clearly shown on a psychological level and perhaps as an expectation. This feeling of need may be increased by our modern patterns of life in the home and at work. People are enclosed for long periods of time, at the office, in a factory, or in the home. To achieve a healthy balance mentally and emotionally, and to cope with the pressures and demands of daily life, activities which take place in the out-of-doors are often a necessity. Urban open space may provide a place where people can relax, play, engage in physical activities, get away from pressures, return to nature, seek solitude, and improve both the growth and functioning of the body.

Marsh (1977, Wright (1981, pers. comm.), Jaakson (1981, pers. comm.) and Gold (1980) all suggest that the demand for urban open space will increase. This growth may be caused by the inability of people to travel because of increased energy costs. The decrease in the number of hours spent working may also increase the demand for more urban open space (Jaakson, 1981, pers. comm.). The demand may also increase because of the recognition by decision makers and planners that access to urban open space should be available to all. Foresta (1980) has found that the desire for urban open space, and the reasons for desiring open space, are not limited by social class or different social station. If access to open space is increased by providing public transportation to such areas, an increase in demand may arise.

The recreational relationship between man and urban open space can be seen as a balance. At one end of the scale is urban stress. If an individual is not able to find a place to recover from this stress, he may reach a mental stress limit and find his perceived quality of life threatened. At the other end of the scale is the opportunity provided by the urban open space. There may be an adequate level of provision of urban open space. Or, the individual may feel that the number of opportunities are not adequate to meet his needs. For instance, the psychological condition of overcrowding may be present in the urban open space area itself. The uniformity of activity areas within an urban open space may not represent a challenge to the individual, thereby not satisfying his needs. These physical or psychological conditions could cause that individual to feel that urban open space was not a benefit to him. The planner, by being aware of this balance, might try to develop urban open space so that the scale does not overbalance.

2.2.3. Economic Relationship

That open space has connotations of different activity for different people can be seen through the development of man's economic relationship to it. The economic use of open space is sometimes in conflict with other uses and activities. The rapid loss of open space through urban expansion is a result of this economic relationship. The non-economic arguments for the preservation of land for particular uses have already been mentioned - namely, outdoor recreation, environmental protection and scenic amenities. These often are lost when strong and more easily developed, and quantitatively supported, economic arguments are presented. The value of open space is poorly registered in the land market because: ".....open space is a public good and because not all values can be expressed in terms of dollars" (Berry, 1976, p.113). Since other values have already been reviewed, it is appropriate to consider the economic value of urban open space.

The developer's frame of reference towards an area is different from that of the individual who is a conservationist, or who supports a need for different types of open space. The developer sees urban open space as playgrounds, parking lots, groups of trees, or artificially created lakes. His focus is usually upon the rate of return to his, or his company's investment. The developer will not consider the provision of an undisturbed nature sanctuary unless it has economic value to the development. The conservationist sees the sanctuary as a place to be protected against intrusion. The developer will create open space only when it is computed into the cost for the individual who will buy the property (Curtin, 1981, pers. comm.). If the developer does not benefit from his investment, directly or indirectly, he may not even develop the urban open space. Wilkinson (1981, pers. comm.) has noted the example of a developer in Ontario who did not build an artificial lake until most of the land in his development had been sold.

The service to which urban open space is put will usually depend on who has the most influence with political decision makers. The economic value of developed land can be shown by a developer to be quantitatively more valuable. The value in leaving land in its natural state, or the cost of adapting that land to suitable open space for community use, is harder to demonstrate. In particular, a decision must be made as to who will benefit and who will bear the cost of a given outcome. The development of open space will likely mean public expenditure in the form of a tax. In most developments, the developer, the conservationist, the planner and any other party involved in the development process, feel that they represent the future residents. The developer wants to keep costs down so that people will be able to afford his product. The conservationist wishes to prevent development in certain areas. The urban authorities wish to ensure that standards in a new development are at least similar to those in existing developments. A balance between the vested interests must be found. That balance is usually determined in economic terms.

The economics of urban open space is decided by two groups. The first is the people who represent the private land market. Individual landowners attempt to maximize economic return. The second group is made up of representatives of the public land market, represented by government bodies which intervene and determine the impact of proposed use. There are arguments supporting increased power for both groups. Rahenkamp (1975,p.194) has suggested that if the private developer is not "creating damages to health, safety, and welfare, he should be able to proceed by right." He has also proposed that governments stay out of development decisions, because this interferes with innovation and creates a negative incentive for the private developer.

The second group may have a weaker voice than the first. Clawson (1972, pp.127-8) feels that a reason for this may be the lack of urban interest groups who support open space. The reservation and preservation of suitable open space may be lost because of this lack of support. When interest groups organize the resources that they have, they often do not match those of private developers (Fraser, 1981 pers. comm).

The basis for their involvement is usually negative; that is, they oppose the developers' plans, but do not have well thought-out alternatives to these (Savage, 1981, pers. comm.).

The private landowner's interests are well supported politically, and are backed by wide-ranging resources. In Canada, most developers, and especially the larger ones are represented by the Urban Development Institute which acts as a political lobby in their interests (Oldring, 1981, pers. comm.). Smaller developers, too, are represented by political organizations which act on their behalf. One such organization is the Housing and Urban Development Association of Canada.

The above discussion suggests that the economic value of land is dependent on the state of development of that land. This is not, in fact, the case. There are economic benefits that arise from the existence of open space. Urban open space may confer benefits upon land external to the land which is kept open. The design of urban open space may contribute to the attractiveness of an area. This contribution may be in the form of safety, liveability, or economic value of other property. The availability of multiple benefits from land may determine its value.

Another economic consideration is that land, if left open and not used as open space, can cause a loss of tax revenue. This could be detrimental to an organization which has property in which the open space exists. The private owner's financial loss may be allocated to the public constituency if that authority wishes the land to remain open. This causes a double cost, the loss of tax use, and the payment of compensation. Pressure is therefore put on political decision makers to develop land.

The final consideration in economic use is that of utility. The decision-maker must decide whether urban open space has greater utility than other goods and services. To illustrate, a choice may be made between immediate access to urban open space provided by mini-parks as opposed to more difficult access to a central but larger park. The mini-parks are aesthetically pleasing to the homeowner and can be watched from the home. Children can play in them safely. They may add to the value of surrounding property. However, the cost of building and maintaining such mini-parks is higher than for a larger central park. Moreover, this is not the sole possible choice. Urban open space could be replaced by a commercial venture such as a shopping centre or an apartment complex. This choice could make the cost of individual homes lower as the developer could receive higher return from his investment. Taxes to homeowners would perhaps also be lowered. The decision maker must be able to predict what may be the best balance.

Several methods of measuring utility have been developed, but all have been severely questioned (Berry, 1976, pp.113-124). How does one measure or assign weights to the psychological or recreational benefits given by open space; and how does one compare these to economic goods? The creation of measurement devices, such as the Goals Achievement Matrix (Hill, 1968), and the Planning Balance Sheet (Lichfield, 1964), enable us to look at values in a more suitable framework; but the value judgments of the people who assign weights to measure intangibles still bias the results.

2.2.4. Summary

To sum up, urban open space has many different uses, and many different meanings. The frame of reference that the individual is using determines his need or lack of need for open space. Burton, Ellis and Homenuk (1976, pp.28-40) looked at the importance of various roles urban open space plays in the community. An 'extensive' questionnaire was circulated to six groups of people. These groups represented the 'key actors that appear to influence most the urban open space system'. The groups or panels represented were: municipal parks and recreation directors; younger professional persons in the parks and recreation field who were members of the Canadian Parks/ Recreation Association; federal or provincial civil servants who serve some function in parks and recreation; urban and regional planners who were members of the Canadian Institute of Planners; municipal politicians and representatives on parks and recreation committees; and citizens who have some active commitment to parks and recreation in their communities. A modified 'Delphi' survey was carried out. A total sample of 480 persons was selected - 80 representatives from each group. Returns were received from 188 of these.

One concern of the study was to rank a number of roles of urban open space, with the following results:

> a. Personal needs and desires were ranked highest (for example, children's play, outlet for relaxation).
>
> b. Socially oriented roles (for example, encourage neighborhood, a place for socially desirable activities, aesthetic beautification and urban form, human scale, enrich neighborhood living environment, and environmental and ecological roles, preservation, contact with nature), were rated slightly lower, but were accorded nearly equal importance to each other.
>
> c. The lowest rating was given the group of roles oriented to urban planning and land use

> (for example, future use in control or urban sprawl or size), and commercial and economic roles (for example, attraction to shopping centres).

People's personal interests and recreational needs were seen, through the answers from these panels, as the most important aspects of open space provision. This has clear implications for the planning of open space.

2.3. The Actors in Urban Open Space

The actors involved in the urban open space planning process have been identified by Burton et al (1977, Figure 3) and Burton (1978, pp.6-8). The initiators of urban open space planning could be any actor, from the urban citizen who plants a tree in his yard to a major developer. People are not, however, free to do as they would like. As Appleyard (1979, p.145) notes, their actions are subject to monitors. These monitors may be members of any of the following groups, who may oppose change, evolve guidelines for what is appropriate, arbitrate conflicts, or generally try to interpret the public interest. The actors involved in urban open space planning are:

1. The politicians who have the authority and responsibility for planning decisions. The mayor and council are examples in the urban area.

2. The executive and management staff of government who ensure plans and programs of government reflect the goals, objectives, and policies of the politicians as embodied in their public decisions. They are advisers to the politicians in the formulation of goals, objectives and policies. Examples of this group are commissioners at a municipal level.

3. The professional and technical staff of government is hired to supply expertise for planning and design, and the responsibility for

implementation and operation. This group may itself act at times as a pressure or interest group. Although members of official departments of municipal government, they sometimes act as a pressure group to defend their interests, (Duverger, 1972, pp.109-111). The Planning Department of a government controls information, knowledge and expertise, and represents a legal body. It is close to and, in most cases, has the ability to influence the decision makers.

4. Landowners and developers buy, develop and plan land use so that they make a profit. These people are sometimes represented by specific pressure groups, such as the Urban Development Institute (U.D.I.). The people who represent the developer usually have high skills in handling people, bargaining, negotiation, salesmanship, and brokerage. They have experience in the public relations area and in the mobilization of resources. This group feels that it represents the best interests of future residents in their developments. However, their guiding principle, as stated earlier, is return on investment.

5. The remaining actors are made up of two groups. One is the public which is affected by decisions by planners, or by the planning process, but do not have the means or willingness to become involved in controversy. The second group consists of those who do wish to become involved. The first represents the majority of voters. The second reflects members of interest groups who are concerned with the planning process. Usually this group is a reactive one, responding to already established policy. The pressure that this group can bring to bear is dependent on its knowledge of the political system, its ability to influence other citizens, and its approach to the subject of planning change. The pressure may be positive, as when a group has alternative plans, or negative, when the group believes that the process is incorrect. Because of their reactive stance, such groups usually have little influence on decisions.

Clawson (1962, p.128) proposed the establishment of a public interest group that would be specifically directed to the establishment and defence of urban open spaces. This would be highly desirable in any city, if the group could be formed and could stay active. He noted that the advocates of open space are often at a serious political disadvantage. The Government of Canada has, in fact, formed and supported such a group, The National and Provincial Parks Association of Canada (N.P.P.A.C.). Its concern is with the protection of the natural environment in National and Provincial Parks. This elite, middle-to-upper class organization is more interested in an escapist form of enjoyment of open space away from the city, rather than in trying to resolve problems in the urban areas. It is similar to groups in the United States that Foresta (1980) feels discriminate against certain population groups in the cities. These are especially lower class people, who, they say, do not understand the purpose of open space. They represent a group trying to keep 'the ecological illiterates' out of their parks (Fuller, p.10).

As yet, few groups have the political power or continuity to match the planning departments of government or the political lobbyists of the development industry. The above pressure groups share their functions with other actors in the political system (Pross, 1975, p.7). The media are sometimes involved, and can be an important vehicle in forming opinion. Gold (1980, p.91) has suggested, in fact, that through systematic evaluation of the way selected words are used to describe recreation issues (content analysis), public opinion can be learned. Sources for evaluation he suggests are: local newspapers, radio and television talk shows, public meetings and complaints or suggestions to public officials. People with high standing in the community, such as judges or successful professionals, are also sometimes important actors. Through their influence and social standing, these people may put pressure on decision making bodies.

The provision of open space is dependent on the influences of these relative bodies. It would not exist, unless it was functional to them and meant something to those who provide it. That it is meaningful to people is evident. How to fit together the concerns of all groups, both private and public, is the concern of the planning process which will be discussed in the following two chapters. However, before discussing this process, such questions as how much urban open space should be provided, the present status of urban open space, and the future of urban open space in Canada must be reviewed.

2.4. Provision of Open Space

Burton, Ellis and Homenuk (1977, p.1-2) state that provision of urban open space has been a historical concern in Canadian cities. Provision of urban open space has come about through an 'ad hoc incremental development process'. Municipal governments have acquired urban open space in a number of ways: statutory dedication, purchase, donation and tax default. This has been done in an unsystematic manner. The reasoning behind this provision is that certain amounts of different types of open space should be provided for given numbers of the population. The most common standard used is ten acres per 1000 population.

This provision of open space gives little attention to the location, type and function of such space. Planning, in contrast to provision, does involve consideration of these factors. Jaakson (1981 pers. comm.) tells of the need for a good quality of land, table land, in the city of Ajax, Ontario, to fulfill the planning that had been done for urban open space. Because of younger age levels and higher activity levels of the population of this city, the standard provision of urban open space was not adequate for future use. In another city, Grimsby, Ontario, the standard provision was more than adequate, and the need for urban open space was much less than that provided by local bylaws. Planning, then, considers the uniqueness of each situation. It has a future orientation, it develops alternatives for more rational decisions. It is concerned with the social, political and physical environment, and expresses collective or group values. It also recognizes that change will take place over time, since it is itself a process over time.

Provision is not to be looked at as bad. That the cities are supplying open space is important. Usually provision is measured in terms of generalized quantitative standards.* The argument of this thesis is that provision through standards is not enough. Other consideration must be taken into account. Lewis Mumford (1960, p.5) makes this point unequivocally:

> The surest mark of bad planning is that in the very effort to meet one kind of mass demand, the planner is tempted to set up a single standard of success, that of quantitative use, and to overlook the need for variety and choice.

Standards do have some value. Providing ten acres of open space per one thousand population ensures an amount of open space in a community. Many cities do not have open space planning processes and by the establishment of standards they have provided urban open space. However, many cities in Canada do have master plans, especially in Ontario and Alberta (Jaakson, 1981 pers. comm.; Wilkinson, 1981 pers. comm.). This is mainly due to the fact that if these cities wish to receive funding from their respective provincial governments they must have such plans. The problem with these plans, however, is that they have the same effect as standards. Jaakson (1981 pers. comm.) states that the plan is usually taken as a written standard. If it says that in three years a mini-park should be provided, then that park is provided. This is done rather than reevaluating what is happening in the community, and reviewing changing needs of those in the community. The needs of the people in the community may be different from the needs provided by general standards or those included in a master plan.

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*To review standards see Burton et al, 1977, pp.79-91. For a review of standards/guidelines of open space in other countries see Etienne Grandjean, 1978, pp.134-151. For current methods of determination see: Roberts, 1974, pp.340-342; Gold, 1980, pp.180-186.

The provision of urban open space, then, is not an automatic good. This conclusion has been supported by Jane Jacobs (1961, pp.91-96), who felt that it is not possible to generalize the principles used to develop one area to another. She argued that unpopular and underused parks are a result of planners not observing what occurs tangibly and physically. The measurement of needs by standards should be reviewed. Jacobs also stated that the planner should find out 'what's happening', and what are the needs of people in each area. Gold (1972, pp.369-371) went further and suggested that parks and open space should be supplied with a rationale for their existence, and should be used. Open space, in itself, is not an automatic good. Provision is not the answer.

Open space has been incorporated into urban places and is a part of urban planning. It has, as noted by most decision makers, positive and negative aspects. It may provide relief from urban stress. It provides green space generally, and, as well, can be used for recreational activities. Standards have been set up and are being used. Whether they are inflexible or inaccurate, or based on empirical evidence, does not seem to matter, (Wright, 1981 pers. comm.).

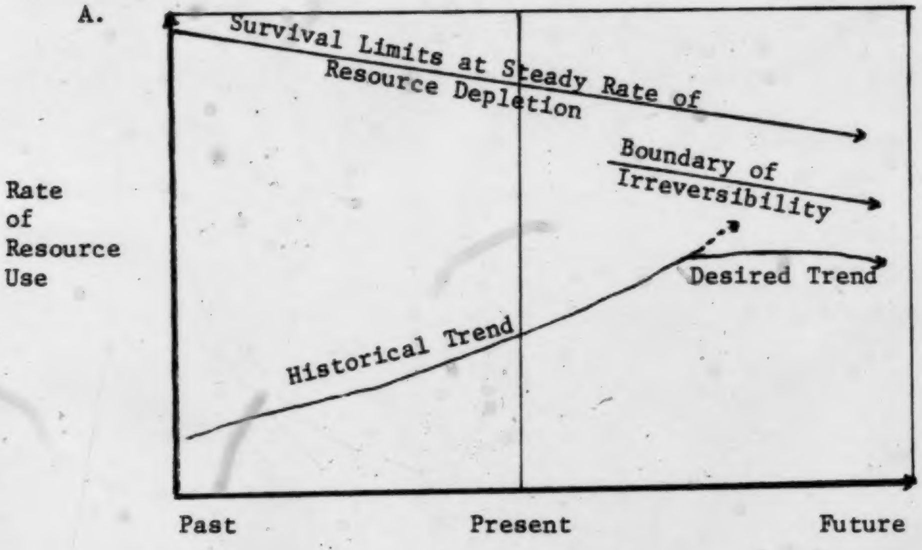
The provision of urban open space, at present, better accommodates the needs of the supplier than the user (Gold, 1979, p.52). The traditional approach to provision, based on arbitrarily set standards, is rendered largely irrelevent and ineffective because the standards are not based on an appreciation of the difference between residents' and suppliers' objectives and values.

In the United States (Gold, 1980, p.35), there is a continuing migration or consolidation of people in urban areas. Over eighty percent of all Americans will live in one hundred and fifty metropolitan areas of more than 250,000 people by 1985. In Canada, similar trends are predicted (Wright, 1976, p.23; 1974, p.30). Wright states that by the year 2000, Canada's population could reach 30 million people. Ninety percent of these people would live in twelve major or poly-centered regions. He concludes that provision of urban public recreational space is emerging as one of the major considerations in the planning of most Canadian cities. Gold (1980, p.36) states that there is already a critical lack of open space in central cities in the United States, and a need for natural areas exists.

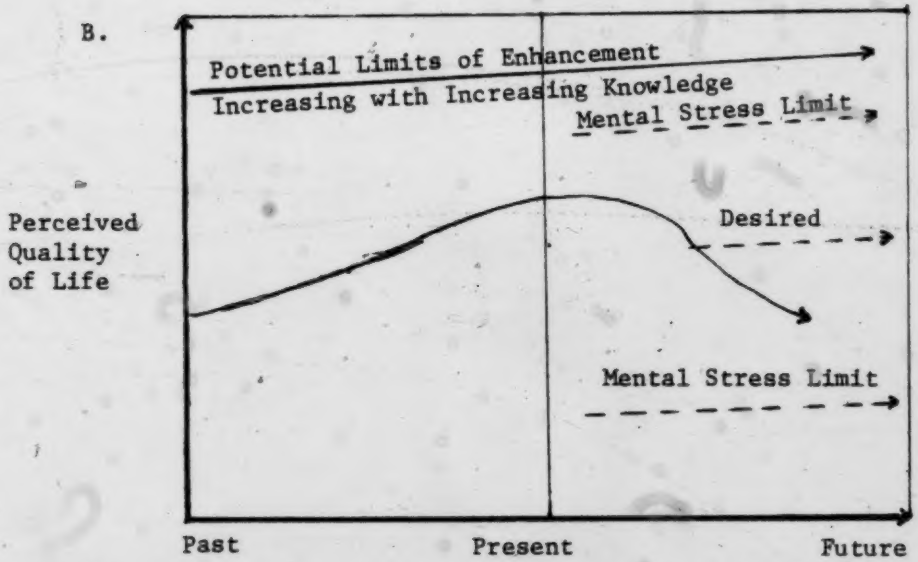
Urban open space is a resource. The concern of Wright and Gold may be shown diagrammatically in Figure IA. As our cities expand, they take more and more land within their boundaries. There is little land today, suitable for development, that is not owned by private corporations or individuals. Development is taking place at an increasing rate. Provision of urban open space in some areas, as Jaakson noted, is not adequate. Urban open space is being used up.

Figure I Urban Open Space as a Resource

A.



B.



Stearns, Montag pp. 39-40

In the United States that rate of resource use may have reached the boundary of irreversibility. If the existence of urban open space is not adequate to meet the needs of the population in urban areas, then a crisis will arise. It may not be as powerful economically as the 'energy crisis' which has resulted from resource depletion of oil reserves, but will affect the people in the urban area. The earlier discussions that linked recreational relationships to the adequacy of urban open space indicate that people's ability to escape 'urban stress' or take part in 'recreational experiences' would be affected. This in turn would affect people's perceived quality of life (Figure IB).

The planner should be aware that urban open space as a resource could reach a state of depletion - if the argument that the amount of urban open space is at present inadequate, or at the point that it is going to become depleted, is accepted. Historical methods of provision of urban space, then, will require replacement by a more comprehensive urban open space planning process.

2.5. The Future of Open Space

What is the future for urban open space? If we use the knowledge about open space contained within this chapter, and have a well-developed urban open space planning process, the future for urban open space should hold promise (Godbey, 1981 pers. comm.; Wright, 1981 pers. comm.; Jaakson, 1981 pers. comm.). But, if the present methods of provision identified by Burton, Ellis and Homenuk (1977) continue, the lack of suitable open land in the future may restrict the development of urban open spaces that hold value for people.

What then should be the goals for ensuring adequate supplies of future urban open space? Goals are ideal states. Those given below are suggestions that have been elicited from other sources. They are mentioned here to illustrate desirable future outcomes for urban open space.

The first goal could be for protection:

> Every inch of available or existing open space needs to be safeguarded. (Abercrombie, 1944, p.99)

This protection would extend to all urban open space. It would include all parkways and walking paths (the connecting links of the open space systems), recreation areas, reserve dedications, bicycle paths, rivers, ravines, marshes and low-lying lands, the green belts, and playing fields.

A second goal would be to ensure appropriate use of open space. How to determine appropriate use is the most difficult obstacle that has been discussed in this chapter. This, then, may be the most fundamental issue for open space planning. That is, to what use should open space be put, and why should it exist at all?

Wright et al (1976, pp.44-46) suggest a broad goal:

> To provide the community with the widest choice and maximum diversity of recreational opportunities consistent with economic feasibility and adequate protection of biophysical resources.

This goal certainly involves all themes discussed in this chapter. There is the physical relationship of man to his environment. This includes an awareness of the land's effect on micro-climate, as well as water conservation and control of environment. The economic relationship means that income can be generated by reduced service costs, and that the value of the land adds value to adjacent properties. It also means that the irreplaceability of open space must be measured against the potential revenue from taxes and development. The recreational relationship that includes the psychological and social values of open space as it is used on a day-to-day basis enhances people's knowledge of natural events, and satisfies man's stated desire for active recreation in open space.

The last goal to be considered has to do with the influence that open space may have upon the design of cities. Its value is considerable. Burton et al's (1977, pp.40-41) study, found that the panels ranked urban open space as an important urban issue. The sample was biased in the sense that the majority of the persons were interested in urban open space. Notwithstanding this, the authors felt confident in concluding that:

> It can, therefore be stated with some confidence that the provision of urban open space is perceived as an issue of significant importance and priority in Canadian cities today, implying that the process of planning for urban open space merits an appropriately high degree of attention.

If this importance is considered in terms of the economic, physical and recreational relationship of man to urban open space, the design of our cities may indeed be different in the future.

This difference may be influenced by conservation of energy and reduction of development costs. If this happens, a move from the supplier's control of the environment to a user oriented control is possible. This could be stated as a goal for open space planning:

> To develop an urban area in which land is used efficiently, working with nature, creating an overall value by optimizing natural environment, minimizing front end and long term costs of

> infrastructure, and the creation of supporting regulations that will ensure a high quality planning and design of development. (Ross, 1978)

Could this type of development ever be planned? It may indeed be possible if the actors in the planning process are aware of the necessity for long term, or real goals. Some communities, such as Wildwood Park in Winnipeg, Manitoba, and a project in the city of Mississauga, the Walden Spinney Development, have been planned this way, and they have both been found to be viable (Ross, 1978, pp.4-7, 32-34; Gold, 1980, p.41).

The creation of cluster developments is one way of retaining urban open space. It is a concept of housing developed to work with nature. The individual has the choice of living in such developments, or in a more conventional one. Through the clustering of single homes, townhouses and apartments, a developer may create housing available for all types of people in pleasant urban open space surroundings.

The planner may evaluate where he places himself in relationship to urban open space. He can decide what is his bias. He should, however, be aware of the economic, physical, and recreational relationships of man to urban open space. The planner can then interpret the needs of its many actors within the urban open space planning process, and measure his response when deciding what urban open space opportunities should be made available. This would be the first step in a comprehensive urban open space planning process.

The conditions for understanding and planning for the urban open space needs of others are intuition, social sensitivity, ecological understanding and personal comprehension. To understand open space is a difficult task. Abercrombie (1944) discovered this over four decades ago:

> The subject is so vast, its ramifications so numerous, that no section of a report such as this could hope to deal adequately with it.

He continued:

> At most we can only touch on certain salient features and the need for a systematic study which will correct irregular disposition, and will separate parts into a whole. (Abercrombie, 1944, p.97)

The more pressure that is put on a city, the greater will be the need for amenities such as urban open space. A goal, then, of this study is to develop a planning model that will fit with this chapter's suggested qualitative analysis. Such a model should provide an improved opportunity to develop both urban open space potential and human potential, which are tied together. Thus, the urban open space planner will try to create a planned system that will have equality for all, but supply as many opportunities as possible for freedom of choice. To do this he needs a strong base from which to work. This base should be a planning theory.

CHAPTER 3

ALTERNATIVE PLANNING MODELS AND APPROACHES

3.1. Introduction

The intent of this chapter is to identify the strengths and weaknesses of current planning processes. Books, articles and transcripts of interviews were reviewed in an effort to identify the more prominent and well-developed planning theories currently being used. The major strengths of each of these theories have been identified. These strengths may consist in certain activities - for instance, goal identification - which are called sub-processes. From each theory the sub-processes present were noted.

On a manifest level there were many sub-processes in some theories, and fewer in others. In the more comprehensive, stronger models, five sub-processes were found to be present. Some indication of this is found by reviewing a number of distinct methods of planning.

Some observations should be made here before proceeding with the analysis of planning theory. It was found that planning theory is a reflection of social and cultural values. A theory of planning has to be understood by looking at the context of the society in which it was developed. Beal and Hollander (1979, p.156) and Batty (1979, pp.17-45) have both traced the development of planning theory through three periods. The first of these was a period of stability. In this period planners "knew" with certainty that their 'implicit processes' were correct; accordingly, their plans were certain. The second period was characterized by the systems approach. The planner had entered an era of uncertainty. The third period is the one which is emerging at present. It is the social learning era and extends beyond the systems approach. Batty (1979) showed this natural development of planning theory as being parallel to the development of a more complex society. Since the complexity within society had grown, a planning method was proposed to cope with this changing social system. Such a method had to be based on planning processes which were both more responsive to change and more active in their conception of the relationship between 'science and design'. The advancement of a theory which could continuously respond to new information was felt by Batty to be important.

New planning models may develop out of established theories. In the previous chapter it was seen that public needs are an important aspect of urban open space allocation decisions. One criterion for a rational urban open space planning theory is the ability to respond to actors within the planning and planned system. Another aspect of a rational theory is that it consider as many variables as are judged significant. Three relationships of man to urban open space were discussed in Chapter 2. These relationships should be accounted in any strong comprehensive planning theory.

The reasons for looking at past and present planning theory are threefold. The first is to deduce criteria that are necessary to build a strong comprehensive urban open space planning theory. The second is to establish the base from which planning theory is derived. The third follows in that the derived criteria will be applied to established planning theory. This will enable the creation of a construct - a strong general planning process.

Comprehensiveness means that a planning process should identify all alternatives possible to reach a goal and to test them all. In Batty's (1979) first period, that of stability, he noted that technique was important. If the proper technique was followed, then the plan which resulted would be successful. These plans were usually one-shot plans generated by the planner as a master plan or blueprint plan. These plans were usually not used and were obsolete before being finished. Preoccupation with technique for its own sake makes an unbalanced planning process. Batty's second period incorporated a need to be comprehensive, to have a complete knowledge of the planned system, with the assurance that, if certain goals were achieved for this planned system, a 'utopian' state would exist. Unfortunately, that man cannot know everything is witnessed by predicted growth patterns that are disrupted by in-migration, or economic forecasts that predict low interest rates when a recession drives interest rates up. Uncertainty and change are a part of the world. Therefore, a planning process which focuses only on a desired end product, without knowing the best means of achieving it, would seem to be inadequate. The first step in being comprehensive is to discover what constitutes a good process.

The analysis in this chapter will try to determine the best process for open space planning. Faludi's (1971, pp.253-266; 1973a, pp.131-205) three dimensional model of planning provides an analytic approach which will enable the writer to establish, first, some criteria for a good planning process, and second, where urban open space planning may fit within this model.

3.2. Evaluation of Present Planning Methods

Faludi identifies three dimensions or continua of planning, which embody six basic methods or models:

1. The 'Blueprint' versus 'Process mode of planning.

2. The 'Rational Comprehensive' versus 'Disjointed Incrementalist' mode of planning.

3. The 'Normative' versus 'Functional' mode of planning.

These six models will be discussed in detail. The strengths and weaknesses of each will be identified. The strengths will be considered as possible criteria for establishing a preferred planning process. The objective of this chapter is to develop a model that has a specific orientation towards urban open space planning. Faludi's model is useful to this study because it is looked at as being heuristic.

3.2.1. Blueprint Planning

Blueprint planning is a traditional approach to planning. It is defined by Faludi (1973a, p.131) as an:

> .....approach whereby a planning agency operates a program thought to attain its objective with certainty.

This process developed out of architectural or engineering offices, single government agencies and private corporations. These processes are well suited to the single site or unitary setting (Beal and Hollander, 1979, p.165).

Blueprint planning displays a number of characteristics, which are general to most blueprint plans. It usually presents a long term 'ideal desirable state'. Long term is up to twenty-five or even forty years. The 'ideal desirable state' is a static picture of some future time. The planning system is centralized to solve coordination and manipulation problems. The planners involved feel that, because of their technical expertise, they are able to control the planned system. The planning that takes place is based on mechanical, technical and professional techniques which were developed from engineering and architectural methods. An example of this is 'optimizing', or choice of the best or most efficient alternative, with little consideration given to cost or effect on other systems. For instance, if the best route for a roadway is a straight path, it is usually planned as such. That the roadway runs through a natural or social community might not be considered. This process emphasized change, and took a long time to develop a plan. The end result of the plan was to accomplish a purpose - for example, a roadway from point A to point B without a consideration of social impact or other such consequences of the plan.

Planners employing blueprint planning methods assume a number of things. There is an acceptance that growth must be accommodated. This acceptance may or may not prove to be true. The planned system may decline in population. The predictive and analytic capacity of man must be supported by ongoing evaluation of the planned system. Chadwick (1971, p.324) talks about man's 'bounded rationality'. He feels that we must recognize the bounds of our knowledge. Satisficing in planning tries to solve long term goals. This activity may not be able to accomplish this because of a lack of knowledge of the real world. The final goals are assumed to be supported by the resources within the community. The planning system also assumes that it will have control over the means of development. This includes influence over policy and environment, and the existence of stable political leadership. The single purpose plan shows that the community is thought to be homogeneous and cohesive. The final assumption is that there are stable relationships over time between the various actors in a planned community, given that there is infallible predictability, analytical capacity and stable political leadership.

The criteria for successful planning in a blueprint mode have been challenged. Man's bounded rationality makes infallible predictions a chance at best. The stability that is assumed is also challenged, as rapid change within our world seems now to be a norm. Political change due to pressure from changing societal values can be witnessed as a common occurrance, and this in turn causes policy change. The strength of blueprint planning may be in its foundation. That foundation is in the development of professional and technical expertise in analyzing and developing solutions to problems. In looking at blueprint planning, a recognition of this strength is the base for the ability to plan for the ideal state. Even with limited knowledge of a problem, this professional and technical expertise will enable the planner to make a firm base for future planning decisions.

3.2.2. Process Planning

This type of planning could be thought of as coming into being because of our rapidly changing and turbulent environment. It is the 'roadmap' type of planning process. It sets a direction towards an end state, but is able to adapt. Faludi (1973a, p.131) defines it as:

> .....programmes are adapted during their implementation. As and when incoming information requires such changes, the plan document becomes much less significant.

The emphasis of this process is opposed to blueprint planning. A definite, desirable end state does not seem to be in evidence in process planning. There are, however, multipurpose end states and this makes the process more adaptive. It does not have a static picture. Because it has a number of end states, if one is not satisfactory another can take its place. This is accomplished by the decentralization of the planning system into the planning area. Planners located in the community are influenced by the social objectives of that community, so that social objectives are considered along with physical ones. Because of this adaptive nature, the inclusion of social objectives, and the recognition of changing values, time horizons of three to five years are employed.

The planner using this model makes a number of assumptions, with the key one being that change will occur. A second assumption is that the environment will affect the plan and, therefore, planning should be flexible enough to respond to these new situations. The planner with a shorter time horizon hopes that the time lag between indication of a problem and action taken to solve it will not make the planning ineffective. The third assumption is that by employing decentralization, the issues will be clear and the public in the community will participate in the planning process. This will enable the planner to be based near his resources. The final assumption of this model is that public participation will improve the planning process.

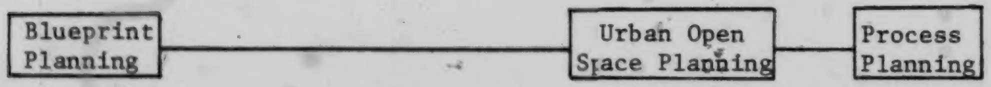
Chapter 2 contains a discussion of the need to look at each urban open space situation separately. Process planning suggests that this is possible by decentralization. The recreational relationship of man to urban open space shows that each individual may have different needs. This was expanded to suggest that each community might have different needs. It would seem that, through public participation, the needs of individuals, and the needs of the community could be considered. Participation might also strengthen the monitoring process, while the frequency of participation might decrease the time lag in the recognition of problems. The needs of an urban open space planning process would seem to complement those of the process planning approach.

In summary, the urban open space planning process may draw strengths from both ends of Faludi's 'blueprint' versus 'process' dimension of planning. Gillingwater (1975, p.75) suggests that this continuum has been developed on an ideological level. In face, a mechanistic form of planning may be required in the initial stages of the planning process in order to determine the environmental impact on an area, or to identify alternatives so that this impact can be lessened. Blueprint plans are developed at some point during the planning process. The process planning approach strength is its responsiveness. It is adaptive, recognizes social objectives through participation, and studies the uniqueness of each issue near the resource.

If urban open space planning were placed on the continuum, it would be closer to the process planning end, but with the elements of blueprint planning as noted above.

Figure II

Urban Open Space Planning Model on the Blueprint versus Process Planning Continuum



3.2.3. Rational Comprehensive Planning

The rational comprehensive approach to planning is an approach that tries to consider every aspect of information that could affect the reaching of a goal. Faludi defines the rational comprehensive planning mode in the following terms:

> .....the programs put forward for evaluation cover the available action space, and where the action space has itself been derived from an exhaustive definition of the problem to be solved.

This model of planning emphasizes a scientific bias. The initial phase is to establish a goal from issues that have been identified in society. From this first step the planner uses analytical techniques - for example, a mathematical model - to achieve his ends. As in blueprint planning, this method assumes that a goal is sought by all people in the society or community, since the goal is for the good of all. It is also like blueprint planning in its centralized planning function, and in assuming that it has infallible predictive and analytical capacities. Unlike blueprint planning, it does not exclude societal concensus and, in trying to improve the ability to reach its goals, the analyst covers everything considered legitimate, by using a comprehensive treatment.

The rational comprehensive planner believes that although society is complex and uncertain, problems can be defined simply. He feels that he has the resources to ensure coverage of all problems that might arise in that society because of his scientific ability to predict and analyze those complexities. As in blueprint planning, this planner assumes that there is a degree of stability in trends and policy issues. There is also an expectation that the planner has control over the resources needed to implement his plan.

The strength of this process is its scientific comprehensive approach to analyzing and identifying problems. In applying this to the urban open space system, the issues in all areas - physical, economic and recreational - would be identified through a scientific approach and as comprehensively as possible. The weaknesses of this approach are its assumptions that problems can be defined simply, that it will be able to control the means of solving these problems, and that society is stable.

3.2.4. Disjointed Incrementalism

This model is highly suggestive of the day-to-day process of running or administering a business. It reflects the reasoning that managers give for not wanting to plan or project for a long period ahead. This lack of long range interest may have a basis in the overall management of a corporation or government department. The company or public sector agency may force objectives to be stated in terms of interim results. Causes for this type of planning are poor measurement of issues, and frequent policy and/or budgetary changes (Brady, 1973, pp.65-74). Incrementalism, thereby, permits people in these organizations to survive by continual alteration of their operations. They can justify small changes through their experiences of reality.

Disjointed incrementalism is defined by Faludi as a situation:

> .....where the programmes considered by any one planning agency are limited to a few which deliberately do not exhaust the available action space, and where that action space itself is ill defined.

Rationality is an abstract idea. The definition of goals will not serve all people or be good for all. Because of the atomistic nature of society, many planning agencies should be in operation. By working from existing reality, it is easier to choose the consequences of alternatives. These alternatives need only be formulated at the margin of already existing policy. After an alternative is chosen, successive comparisons can be made as to whether it is worthwhile or not. Rather than projecting into the future, disjointed incrementalism deals with problems as they arise, through bargaining, brokerage and compromise.

The disjointed incrementalist approach is a conservative one which ensures safety to those planners who wish to cope only with observed reality. Problems could arise if the objectives that are set for a department cannot be continuously changed in the face of changing conditions. That is, goals may need to be more comprehensive than the interim objectives found in this type of model. Past and present policy must be, in the main, satisfactory, so that marginal changes are sufficient for achieving an acceptable rate of improvement in policy results. The problems that the policy is meant to deal with must also have a high degree of continuity. If there is a sudden unexpected change in relevant mass values, in knowledge, either technological or behavioral, or in the resources being used, which change the entire nature of the policy problem, then marginal adaptation will not suffice. Finally, this approach assumes accessibility to the initiators of the process by all groups, and by representatives of unorganized groups. This assumption, when looked at in the context of a government department, may not be true, since access to policy material is often restricted.

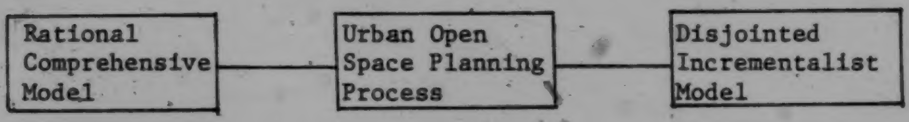
The strength of the 'disjointed incrementalist' approach lies in its successive ongoing choice of alternatives. Chadwick (1971, p.324) believes that by proceeding incrementally we recognize certain bounds. This is, planners operate within bounded rationality. Incrementalism, he says, does not need to stop short in finding a satisfactory solution, but may attempt optimization within its bounded context. The weakness of disjointed incrementalism may lie in its inability to recognize changes outside the planned system, or to look far enough ahead.

To sum up, the urban open space planning process may draw strength from both ends of Faludi's second continuum, the 'rational comprehensive' versus the 'disjointed incrementalist' modes of planning. Gillingwater (1975, p.75) identifies this dichotomy as existing on an institutional level of planning, with a secondary emphasis on the operational aspect of planning. The joint use of strengths from each theory would enhance an urban open space planning process. Stuart (1976, pp.43-46) identifies strengths in both the rational comprehensive and the disjointed incrementalist models. He suggests that the strength of the rational comprehensive model is in its ability to identify goals and to choose the best alternative. The strength of the disjointed incrementalist model he sees as being its iterative format.

The urban open space planning process sought here could be represented by neither the rational comprehensive model, nor the disjointed incrementalist model. The open space process would borrow from both, as shown in Figure III. Etzioni (1977, pp.81-91) suggests that the planning process should also exist with neither the rational comprehensive model nor with the disjointed incrementalist model. The planner chooses to examine the sector in detail, and to just lightly scan other sectors.

Figure III

Urban Open Space Planning Model on
the Rational Comprehensive versus
Disjointed Incrementalist Continuum


Rational Comprehensive Model
Urban Open Space Planning Process
Disjointed Incrementalist Model

3.2.5. Normative Planning

This type of planning is chiefly concerned with the ends of a social system. The goals, then, of normative planning are those of the system itself. The goals or products of a system are emphasized. For instance, the proper delivery of a service that is offered by that agency may be the major goal of normative planning. The planning is implicit to the system. The planner sets his planning goals from information obtained within the system and the system acts on them. The means to reach these goals are not important, so neither mechanistic nor behavioral considerations need be taken.

Normative planning takes place when goals are not being reached to the satisfaction of those within the system. The normative planner assumes that there is a certain dissatisfaction with the present state of affairs. He also assumes that this dissatisfaction comes from actors who have the ability to mobilize information and political resources and who possess recognized political legitimacy within the planned system. There is a lack of comprehensive policy. Policy must either be dispersed, fragmented or non-existent. The ability to change end states without trying to develop the means for this change indicates this lack of policy.

The strengths of this type of planning may be in the rapidity with which the system can adjust to its end state. This form of planning may be best able to meet rapid changes that exist outside a system. Its weakness lies in the lack of planning for the development of means to reach these goals. Although people within this system may be creative enough to develop efficient means to reach goals, it will be assumed that the majority of people need some direction to reach them.

3.2.6. Functional Planning

Functional planning concentrates on the means of planning; the goals are assumed to be given. The planner devises methods and procedures for achieving goals, irrespective of how the goals are defined. The better the information flow, the better the policy decisions (Burke, 1979, p.294). This type of planning may be best represented by what takes place in a bureaucracy. It can be seen as a functional, administrative exercise controlled by bureaucrats. These bureaucrats have been told from an external source what the goals of planning are. An example of this function could be any department in government or business that has been told to increase production of a service or product by ten percent. The means to do this are provided by a professional and technical service. The duties that need to be performed to reach these goals are defined by others, such as foremen or experienced workers. The goal then is defined externally. The planning system provides coordination and the articulation of means. The system tries to provide the flexibility needed so that uncertainty about reaching the external goal can be reduced to the point where the means planned will reach those goals. The planning system assumes that there is a stable identification of goals, that the professional staff involved in planning the means is competent to coordinate them properly with the goals.

The final assumption made in this type of planning is that political pressures will not affect the formation of means. This assumption is, of course, a weakness of this planning system. In government or private industry, rapid political change is a frequent occurrence. A further weakness of this planning process is the acceptance of external goals. A system that is to accomplish goals should have some input into their formulation. The goals could be found to be irrelevant or impossible to reach by the planner; or the resources within the functional system may not be enough to reach them. The strength of this process may be in the professional and technical expertise used in defining policy, and the on-going coordination and articulation of means to reach goals.

In this third and final Faludi continuum, then, neither goals nor means can stand alone, but must work together as a planning system. Faludi agrees with this observation. His conclusion is that only where both ends and means of action are judged, can rational planning take place (Faludi, 1973, p.172). In arguing against the separation of these ends of the continuum, Faludi identifies their strengths and weaknesses. They cannot operate alone, but both must be present in a planning model. The more complex a system is, the more uncertain the bureaucrats would be and thus, the less sure of their decisions. Few decisions would be made and, if made, they would not be understood. Therefore, only when both functional and normative processes are present, can planning be relatively effective or 'substantially rational'. The open space planning process would then fit into this dichotomy as needing both elements as seen in Figure IV.

FIGURE IV

Urban Open Space Planning Process
Contains both Normative versus Functional Continuum

Normative Planning	Urban Open Space Planning	Functional Planning

In summary, the review of these dichotomies has identified a number of strengths of the planning processes that perhaps could be applied to the development of an urban open space planning process.

One additional planning model should be considered. The planning system responsible for developing an urban open space plan could not possibly consider the complete impact that open space development might have on the relationship of man to urban open space. The planning model to be discussed may be seen as an option for people faced with an unsatisfactory plan.

3.2.7. Advocacy Planning

Advocacy planning was suggested by Davidoff as a call for the development of plural plans rather than a unit plan. It is a way in which localized urban interests can be expressed by a group, which hires a planner to present more satisfactory plans than those given by a public or private agency. It has been seen as a way to humanize the technical apparatus by blocking insensitive plans and challenging traditional views of a unitary public interest (Barclay, 1979, p.390).

Advocacy planning is based on a number of assumptions (Galloway, 1979, p.401). The first is that there is a perceived inequality in the distribution of resources. This is usually felt by the group which reacts against a plan. It sees another area or group receiving benefits which it believes should be distributed equally. In contrast, a resource such as a park near them could be planned for development. The only way to stop the development is to form a group to challenge the plan. This activity may take place only after other means have been tried. The second assumption is that people will react strongly enough about the issues and then act effectively.

This type of planning could be valuable to 'watchdog' groups. It could also assist interest groups in developing a more positive image. This image would emerge when other actors in the planning and planned system see that this group is making an effort to provide a viable alternative, in contrast to a group that just reacts negatively to a plan without alternatives. If enough advocacy groups form a concensus, a decision benefit   a majority may be made.

The strength of this type of planning comes, perhaps, not from the method itself, but from its underlying philosophy. It points out that all groups involved in the planned system should be solicited in the development of a plan. Its weakness is that only groups or individuals who have influence in a system would use this approach. Other groups might not represent themselves, or else might react negatively without any impact on the plan.

In sum, in urban open space planning there is strength in considering the multi-dimensional pluralism of our society. A planning process may be enhanced by involving people and thereby obtaining their commitment to plans that they have helped to develop.

3.2.8. Conclusion

The strengths and weaknesses of seven planning models have been reviewed. These strengths and weaknesses indicate a number of criteria that may be used to evaluate the needed strengths for a comprehensive urban open space planning process. Ten criteria have been identified.

The first has to do with whether, through the planning process, the planner is aware of the 'human dimension'. This awareness comes from the concept of multipluralism developed by Davidoff and Reiner (1963). The planner, if he is to develop a clear picture of the 'planned system', should be aware of the subjective concerns that exist in that system. These concerns include the recreational relationship of man to urban open space. Others are political, cultural, aesthetic, sociological, psychological and ideological considerations that planners sometimes refer to as forms of the 'intangible'.

A second criterion is 'adaptiveness'. This criterion comes from the functional planning model. The professional and experienced planners in this mode meet together to decide on the best means to develop goals. A strict pattern is not decided upon, but a flexible, coordinated and articulated set of means is developed. The process stays adaptive until the issue is clarified and uncertainties about means are reduced. The step-by-step approach to the definition of an end state is able, therefore, to adapt to change.

The third criterion judges whether a process is 'dynamic'. Dynamism is supplied by goals. This development is noted in the rational comprehensive model of planning. This turns the focus from an internal orientation to an outward one. The weakness of internally derived goals was noted under the normative planning model. Goal focus creates an objective for the planner. He knows what to do, he may become creative in developing means to reach goals, and he is result-oriented. These three properties make a planning process future-oriented. The future orientation is further enhanced by maintaining this energy over time. The planner adjusts his actions and programs to the changing values and issues present in society over time. This adjustment is a strength of the process model of planning.

The fourth criterion was found in the 'disjointed incrementalism' approach. It is 'constant iteration'. Stuart (1976, [illegible].43-46) identifies this strength as the successive ongoing choice of alternatives. This may be expressed as the ability to watch the environment to see if problem solving is effective; that is, whether it reaches its goals successfully. If the solution to an issue is not seen as effective, another alternative will be used.

The fifth criterion for a successful planning process is that of 'problem identification'. The weakness of blueprint planning was found to be that it ignored intangibles. Blueprint planning usually resulted in a single-purpose plan that considered only the development of one object - for example, a highway, to decrease time spent in travelling from point A to point B. A strength of the rational comprehensive approach was that it identified all components that might cause a problem. From that knowledge of the environment surrounding the problem, it could be easier to find a solution.

The sixth criterion asks the question: Is the theory being used in the proper situation? This criterion was named 'feasibility'. The study of the various models of planning showed that, while some theories were strong in certain planning activities, they were weak in others. For instance, the disjointed incrementalism model would be applicable to planning within a department in government; the blueprint model is excellent in a "one-shot" task, such as building a bridge; however, if the planning process is needed for a larger scope these models may not be applicable. The test of feasibility would be to ask such questions as: Could this process solve the problem, or could it be applied in the case of urban open space planning? Does the theory take into consideration all that is needed?

The seventh criterion is that of 'self-analysis'. While a planning process is taking place, there is the possibility that it is not accomplishing what it set out to do. This is evident as a weakness in functional planning. Although goals may be set, the planners may not have the resources needed to accomplish these. The planner must, therefore, adjust to this fact and recognize that functional planning is not adequate to accomplish the results that have been demanded of it. It may be necessary to find some method to improve upon it. The ability to check on the theory itself, and improve when needed is 'self-analysis'.

The eighth criterion concerns participation. This criterion is concerned with the involvement of the actors in the planned system who will be affected by a plan. The participation in the planning process includes assisting in the development of ideas, the understanding of why planning is being done, and an understanding of goals. This criticism may be summarized best by saying that participation is a two-way communication between the planner and the individuals or groups in the planned system.

The ninth criterion is 'theory incorporating'. This criterion distinguishes between the quantitative activity of developing a plan, and the qualitative activity of working from a framework of planning. In both cases a model is applied. In the first, the object is to develop a plan from which to work. In the latter, the object is to draw a roadmap to follow, and to move continually through a theoretical framework in progress towards a future end state. In the first, planning ends with the delivery of the plan; in the second, planning does not stop until the end goals are reached.

The tenth and final criterion is that of systems analysis. It develops out of the rational comprehensive model of planning. It is the complete identification, within bounded rationality, of as many interactions as possible within and influencing the planned system. In an urban open space system this would include all relationships, such as the economic, recreational, and physical relationships between man and his environment.

Table II uses these criteria in analyzing the seven modes of planning that have been reviewed above.

A number of conclusions can be drawn from this comparison. First, no single planning model meets all of the criteria desired for a comprehensive urban open space planning process. Each separate model has strengths and weaknesses. The general urban open space planning model would, therefore, best be built from a number of theories. The urban open space process thereby gains strength from an eclectic approach. The question is how to link the diverse planning theories and styles to get them to work together (Kaufman, 1979, p.403).

As can be seen from Table II, each of the planning theories has some association to the ideal planning criteria. The strongest overall theory is that of 'process' planning. It is the closest to being the

TABLE II

Comparison by Modes of Planning

Principal Criteria of open space planning Modes of Planning	Human Consideration	Adaptive Continual Interactional	Dynamic	Constant Iteration	Problem Identification	Feasibility	Self Analysis	Participatory	Theory Incorporating	System Analysis
Blueprint Planning	NA	NA	1	NA	1	3	NA	NA	NA	2
Process Planning	1	2	1	3	2	1	2	1	2	1
Rational Comprehensive Planning	NA	1	1	1	3	3	1	1	1	3
Disjointed Incrementalism	NA	2	NA	3	1	3	1	1	2	NA
Normative Planning	2	2	NA	1	1	NA	1	2	1	NA
Functional Planning	1	NA	NA	1	1	1	1	1	1	NA
Advocacy Planning	3	1	1	2	3	1	2	2	1	2

N.A. - No Association
1. Low level of association
2. Medium level of association
3. High level of association

most complete planning theory that could be used as a general urban open space planning model. It is weak, however, in the human dimension, and in working towards strong end states.

The planner using these models may not be fully aware of all the influences that would change a plan. Process planning may be used as a base. The strengths of other theories can be added to it. With this addition of complementary strengths, a general planning model may be created that meets the criteria for a comprehensive urban open space planning model. For instance, the rational comprehensive model of planning supplies the necessary identification of problems, and understanding needed to cope with uncertainty. The human dimension is developed to its highest level in advocacy planning.

From Table II the criterion 'dynamic' is seen as not being a strength of any of these models of planning. The ability to set firm goals exists in the blueprint and rational comprehensive models. The process model of planning has the ability to adapt to changes in society, but has vague end-states. A dynamic approach should incorporate both firm goals and the ability to adapt to change. The means to reach these would be a 'dynamic' process.

Three other criteria were noted to be weak. They were adaptiveness, self-analysis and participation. No specific model has all of these criteria. In Section "3.4" of this chapter, some more recent approaches will be reviewed. Before doing this, however, a review will be made of the activities that take part within a planning process. These activities are called subprocesses.

3.3. Subprocesses of Planning

This study has identified five distinct subprocesses.

3.3.1. System Description

This system description subprocess identifies problems and issues that are relevant to the planning, or in the planned system. A comprehensive analysis of the systems involved in the problem or issue is done. The need may be an indication by an actor in the planned system of dissatisfaction with the means of reaching a goal. It could also be a change in the circumstances within which a planning goal was set. The system description could be an initial diagnosis of a system or a review.

Many different systems on many different levels are identified in this subprocess. In planning, we need to be self-conscious about how we proceed to solve the problems of planning. Borrowing from the systems concept or the systems thought

> ......is stimulated by the obvious need and desire to improve design and planning decisions. A much neglected impetus for systematic thinking has been the requirement to justify decisions once they are made. (Ferguson, 1975, p.2)

Once the planning process is started, it must be justified. This system analysis subprocess has its base in the systems approach.

What the systems approach provides us is a pattern of thought in which to integrate elements and make them a coherent whole. It makes the planner aware of the whole system by viewing the subsystems interacting. The systems approach has also grown out of what is traditionally called the rational comprehensive approach. This, infers, then, that this approach will be a problem solving one.

The rational comprehensive approach develops concepts from the general to the specific. It also tries to identify real obstacles. The systems analysis subprocess places these obstacles to planning in a context where they may be understood. This is done by identifying the systems causing them. The goal is to allow the planner to understand the problem as clearly as possible so that he may apply his reason to the problem and identify alternatives to solving it.

The inherent general weakness of this subprocess is that the analyst does not have the resources, time, energy, money or knowledge to consider all relevent information in making a decision. The planner analyzes only what his resources allow. He must be selective in his approach to systems analysis. The selective and conscious look the planners can take at the real world can, however, be enhanced by the other subprocesses, and by the iterative nature of a dynamic planning model. Interaction with other subprocesses makes the subprocess stronger. This will be made evident later.

The identification of a few general values or goals is largely blind to the systematic nature of our world as found in a disjointed incrementalist approach. The disjointed incrementalist approach is not dynamic nor is it an adaptive process. It has been accused of being conservative because it only accounts for incremental change rather than looking for innovative solutions. The system description subprocess can provide important information, by being selective, iterative and adaptive.

This subprocess, then, involves identification of problem areas, the need for sources of information, the actors and decision makers involved with the problem, and the location and necessary identification of the physical problem.

3.3.2. Goal Situation

Young (1966, p.77) discusses the importance of goals in the planning process:

> Planning differs from eingineering, designing, or just plain problem-solving in that, for these activities, the goals or objectives are given; in planning, the determination of the goals assumes equal importance with the design that is meant to achieve them.

A goal is seen as an end to strive towards. Its value lies in its being an ideal. Even though it may be something to be sought after, it may not be achieved (Wright, 1981). A goal may never be achieved; but it is, the planning process can be thought of as a success. For a number of practical reasons, such as technical or economic problems, a goal may be out of reach. It may become redundant as more information is received by the system description subprocess. The need to accomplish the goal may change as society's needs change. In contrast, if a goal is easily achieved, then there is little reason to develop a planning strategy which has an impact on the planned system. A goal is an external focal point for the planning system. In moving towards that goal helpful change will take place in the planned system, and a result orientation will establish itself in the planning system. The goal orientation is important in itself, even if the goal is not reached.

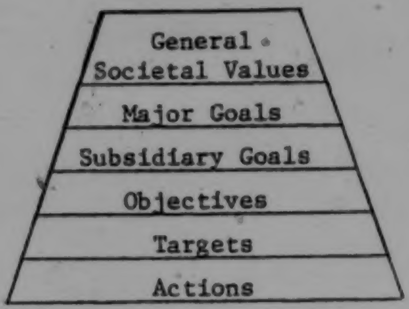
The goal is important for a number of other reasons. Chadwick (1971, p.114) states that goals, "distinguish the human being from the animal". McConkey (1976, p.15), in dealing with organizations, states that goals give a future orientation to an organization, rather than a day-to-day management style. With goals, the planner is forced to look outside the planning process to the environment in which they must be reached. It causes the planning agency to be resource-oriented and results-oriented (Wright, 1981). It emphasizes what is to be done rather than just the administration of routine. If goals are arrived at by involving users or clients in the process, it causes the process to be participatory rather than hierarchical. The involvement of the planner and the other actors in goal development puts them on an equal level. The sense of problem solving as a team, rather than in expert and client roles, creates a commitment on both sides to goal development. This may even create a synergistic effect and add strength to the total planning process.

After goals have been decided upon, the next step is to develop objectives. The objective is capable of both attainment and measurement. It has an implicit rather than an explicit purpose. Whereas the goal leads the planner to understand the total process, the objective is part of that total. It leads the planner to a specific focus. The objective can be reached. Resources are used to reach it. This implies an organization, which focuses upon itself and its internal work to reach the objective. The organization creates tasks for each of its resources to accomplish. These are accomplished by the actions of each individual or group within the organization.

In summary, actions make tasks, tasks make objectives, and the objectives, if reached, will be a step closer to the goal. A clear hierarchy is established. The subprocess of goal determination should follow a certain definitive sequence, (Jaakson, 1981 pers. comm.) (Figure V).

FIGURE V

The Process of Goal Reduction



Stuart (1976) suggests that development of a goal hierarchy should be iterative. McConkey (1976) supports Stuart's opinion, but uses the word 'repetition'. Both writers see a number of stages in this process. The starting point is the intelligence base established by the planner from the system description subprocess. This should identify the issues in the planned system. The goals and objectives arise from the decisions of the planner and actors about these issues. The chosen goal is fed back into the systems analysis subprocess so that its effects on people or on conditions within the system can be checked. This communication and testing process develops a coordination network, collecting information from fellow planners, the community and relevant sources. With these communications the process continues.

The initial step of finding and identifying the goal is completed. The next step is to identify the capability of the planning system. What needs to be done in order to reach the goal? The planner at this stage must make a value judgement. He has to decide what may happen with respect to each of the major variables that may impact on the planned system and influence the success of reaching the goal. The planner sets up a means for continual evaluation of goals that can coordinate all aspects of what may be happening with the major variables. A major variable in the case of urban open space could be the socio-economic characteristics of the population. Changes in this variable may influence the demand urban open space. This may cause the objectives for an area to change and thereby influence a change in the goal. With this system set up, a final evaluation of goals takes place before formalizing them.

The goals are formal. The sources of authority that are needed to establish policy in specific areas are then identified. Programming objectives, planning the major action steps and arranging a timetable or schedule stating when the objectives will be achieved are all developed. A part of the scheduling process is that of deciding upon the identification and allocation of resources that will be required to achieve each step towards the objectives. This process is the point at which the planner assigns tasks for resource groups to complete. To complete the task, the work to be done is broken down and assigned to individual members or groups.

After the initial identification of resources, and the breakdown of goals into objectives, tasks and actions, the planner reviews these. The feasibility of each step is checked. Decision makers are contacted to confirm agreement with these goals, and to ensure individuals allocating and coordinating the objectives have authority and sufficient resources to carry them out. The objectives, the tasks and the actions are confirmed.

Each objective, task and action should be measurable. From these measurements, performance criteria may be established so that results can be monitored and controlled. The planner or operator is able to stay in control of the direction of this process. If performance criteria are not met, he may readjust the schedule to compensate for time lost or may derive an alternative method of meeting the task or objective. Each part of the process may be repeated as necessary if targets are unrealistic.

Creative goal setting can be divided into several components. The first is that which is extrinsic to the planning system, those new ideas from outside. The second is the discovery of new ways, combinations, methods, or systems of doing a present job from within. Ordiorne (1980, pp.14-16) and Friedmann(1973, pp.171-183) suggest the first component by saying that a 'mutual learning' process of keeping in touch with centers of research is helpful. They suggest that the second component is part of the mutual learning done by the client and planner. This choice of goals is supported by the systems description function. By being aware of new creative concepts, and continually developing new goals based on monitoring and adaptive behavior, the goal setting process prevents negentropy, or the death of a system.

The continual development of new goals leads to an increase in knowledge. It may also mean an increase in the numbers of people assisting in the process, or receiving more information from centers of research. With an increase of knowledge, the ability to forecast end results may improve. The planning system may thereby become more effective. The identification of multiple goals is also possible; but it must be stated which goals and objectives have priority. It may be necessary to develop an issue identification program within the planned system to identify the ranking of the goals.

3.3.3. Alternative Evaluation

The next subprocess involves what was briefly mentioned in the goal situation subprocess, and is closely connected with it. It is the generation or formulation of alternatives and their evaluation. As Stuart (1976, p.7) feels, alternative evaluation is the weakest step in systematic urban planning. He points out that a preferred plan should not be adopted too quickly. The means to reach objectives must be analyzed carefully, because there are always more ways than one to reach objectives. The equifinality concept of the systems approach may be the best way, even if it may not be the most economic. The fastest way may not consider the social impact. The capability to accomplish goals may be measured as well.

Writers reviewed, such as Stuart (1976, p.15), Lichfield (1964, pp.159-169), and Hill (1968, pp.19-29) feel that the worth of the evaluation depends on the assessor's method of making the evaluation, and his objectivity. Their conclusion was that no evaluative process is completely objective. The evaluation of alternatives is done through several methods.

Stuart (1975, p.15) suggests that a number of improvements should be made in the procedure of assessment and evaluation. First, he suggests that there should be a stronger 'interplay' between the design of alternatives and their evaluation. This would make the process of development a continuing one. As each alternative is developed, it would be tested for its feasibility. The second point he makes is that when a goal or objective is in conflict with another, citizens and decision makers should be involved in the analysis. This involvement would facilitate a trade-off or choice of alternatives that would have support from the system of concern, and would provide an understanding of why a choice was made by the authorities. A third point, similar to the second, is his argument that communication techniques should be developed to indicate significant differences among the alternatives. These techniques should be able to transmit the same message about significant differences to the planner, the layman, and the decision-makers in terms that each could understand. Stuart's fourth point is the need to increase the ability of the assessor to objectively weight the importance of variations in alternatives. If all four suggestions are implemented the uncertainty of analysis should steadily decline.

Three methods of evaluating alternatives have been mentioned in the literature. They are: Cost-Benefit Analysis; The Planning Balance Sheet; and the Goals Achievement Matrix. The Goals Achievement Matrix, developed by Hill (1968), is the one favored by the majority of authors reviewed. This method has developed out of a need to assess situations in something beyond cost-benefit terms. Cost-benefit analysis was intended to

> ....insure economy in proposed actions by comparing the resources they will use (the costs) with the values they will produce the consumer (benefits). (Lichfield, 1964, p.160)

However, in urban open space planning as noted in Chapter 2, the planning system is faced with many intangibles, such as the recreational and physical relationships of man with urban open space. Can these be measured? Hill (1968, p.20) argues that the cost-benefit analysis method of evaluation gives but 'lip-service' to the consideration of intangibles. He suggests that the intangible costs and benefits may be the most significant. In addition, cost-benefit analysis has problems when it runs into 'feed-back' from actors not consulted, but who will be affected in certain areas of scarcity. For example, citizens who are deprived of access to an open space area because of construction of a new freeway may complain. This process does not lead to complete alternative choices (Smith, 1974, p.18).

The Planning Balance Sheet was developed by Lichfield. The plan, as put forward, is regarded as a series of development projects, interrelated in time and space if this is to be realized. Each item is measured in money, or physical terms as far as possible, or otherwise noted as intangible. Lichfield divided actors into two categories, producers and consumers, and considered whether they would receive benefits or costs through alternative plans. Lichfield's model has been criticized for its arbitrary division of consequent recipients into these two groups. Hill questioned whether or not costs and benefits included in the Balance Sheet were relevant. Ferguson, however, (1975, p.52) felt that this is a criticism that could be levelled at all cost-benefit analysis.

The Goals Achievement Matrix is used to evaluate goals of a plan. Hill's method tries first to define the goals as operationally as possible. Second, the Matrix separates objectives into three groups: those that can be assessed in dollar values; those that can be measured in quantifiable terms with the same limits for both costs and benefits; and those which are intangible. The third operation of Hill's method is to divide the system of concern into various sectors or publics. The objective or goal is then evaluated as to the effect it has on these sectors. The importance of a goal to each sector is weighted. For instance, accessibility to urban open space for exercise may be weighted relatively higher for a sector with children and with ages 34-39, compared to a sector with a mean age between 60-65. The plan is then evaluated to determine whether each objective increases, decreases, or leaves goals achievement at about the same level for the community as a whole and for the groups within it.

Results of the evaluation can be presented to the decision maker by submitting results for each alternative, or by summarizing the results and presenting a preferred plan. The decision maker can assess the alternative in relation to each sector of a community. The more reliable the measure of quantification, through consistent communication from the planner to the citizen and decision maker, the less guesswork is needed. The decision maker can also see an indication of the potential user's willingness to pay for urban open space. This method may also expose unnecessary objectives and provide evaluation of the total project (Ferguson, 1975, pp.51-54; Faludi, 1973a, pp.268-270; McLoughlin, 1969, pp.272-278).

The value of the goals achievement matrix is high. The method is complex and costly, but this may be out-weighed by its value. One disadvantage of this approach, however, is noted by Hill (1968, p.28). It is that the interaction and interdependence between objectives is not registered, and the method is recommended for evaluation of plans in a single sector. Evaluating alternatives is important in the planning process. The development of methods such as these as a subprocess may sensitize the planner to operational and political realities that could mean the success or failure of a plan.

Another method that has been used in evaluating alternatives is the case study approach. It may be heuristic to the extent that Isard et al (1972, p.228) found that this approach "....developed improved conceptual frameworks and new empirical materials for increasing knowledge of the mutual dependencies of environmental processes." The case study approach is detailed, since in a specific area every alternative that can be thought of is analyzed. The cost of destroying or changing natural systems may be evaluated in economic terms. Isard and Choguill found that they were able to identify and analyze important linkages between environmental processes and economic and social systems at various scales. A case study approach for each unique situation could be seen as being costly; but each new study could confirm or reconfirm the strengths of linkages and conceptual frameworks, as well their ability to evaluate the impact of plans.

Alternative evaluation is not yet a scientific endeavor, but a value laden process, as this review of alternative assessment methods has shown. It is, however, necessary. The necessity results in final acceptance of a preferred course of action. If the evaluation has been successful, the alternative will be effective (achievement of objectives) and efficient (smooth in operation).

3.3.4. Implementation Strategies

Implementation is a subprocess in which the plan is put into operation. If the plan is looked upon as being unrealistic, or is proven to be unrealistic, it should not be used. If, despite this, it is used, it will not be appreciated by those having to deal with the problems that it causes. Jaakson (1981) states that very often the consultant who is hired to plan delivers the plan and departs. Traditionally this is the end of the planning process. Burke (1981, p.137) refers to this phase as the 'cut over' phase. "The success of the plan," he states, "is determined by whether it is 'carried out as designed'." The planner should not discard the plan at this time, if it is indeed a process type and not a blueprint. This should be the point at which the planner should evaluate the plan over a period of time to ensure that it is operational. If it is not, then modifications should be made. McLoughlin (1969, pp.291-294) supports this philosophy. He suggests a control mechanism be developed that is able both to accurately survey the real world at set intervals of time, and also to compare the survey results against the forecasts of planned or intended states. If the forecasts are correct, the output from the real world confirms this, and increases the strengths of the process. What McLoughlin (1969, p.274) shows is that "technical and administrative channels of communication should be firmly established and nourished by supplies of information."

With this control of information flow, the planner may have the ability to control the evolution of cities and regions. Decision making is easier when there is a reliable source of information. The decision maker can decide if alternative plans need to be made. The plan can be seen as leading to the future goal.

If the planning agency has been assured of commitment from its earlier work in getting the actors involved in participating, the chances for successful implementation are higher.

Monitoring was considered to be a part of the implementation process. A typical example of this is shown by Burton's (1975, p.5) phase six: Final Plan and Formulation and Implementation, Task 42, which simply states that monitoring and review of this implementation should take place. Monitoring was also noted to be a part of the implementation phase by all five of the open space planning experts interviewed. The traditional method of thinking of monitoring, then, which has carried into the present theories of planning, is its importance to the implementation subprocess. This traditional thought must not be downgraded. The plan and its impact on the real world must be monitored. This aspect of monitoring will show where impact is being made, and what actors think of that impact, and whether the planning process is going in the desired direction. As such, monitoring is an integral part of the implementation subprocess, as it is of the other three subprocesses. Implementation, then, lies in assuring that the plan is proceeding correctly, and that it is operating effectively and efficiently. This is done by diagnosis and synthesis of information gathered by some form of monitoring method.

3.3.5. Monitoring

This subprocess, as noted above, is thought to exist in most planning models only in the implementation phase. Faludi (1973a) feels that a new emphasis on monitoring has been caused by the need for planners to know the results of the planning process which support traditional thinking. It is part of the evaluation and review aspect of this implementation subprocess.

Monitoring, in opposition to traditional thought, is what makes planning an iterative and adaptive process. Without continual ongoing monitoring processes, the planning model would not have information throughout the process of planning. Therefore, the intelligence base from which to work and develop would also be missing. If the monitoring base was removed, planning would be a static procedure, and at worst would take a disjointed incrementalist approach.

3.3.6. Summary of Planning Subprocesses

In summary, each planning subprocess is required for a complete planning process. The subprocesses, if looked upon as systems, are interconnected to each other. Using McLoughlin's (1969, p.78) definition of a system and applying it to these subprocesses, it can be seen that each subprocess may be seen as a system making up a larger system called a planning process. The planning process may be part of a larger system, for instance, the management system (See Chapter 4, Introduction). The planning system is seen in diagrammatic form in Figure VII, page 122.

The planning process is a system as shown above with each part or subprocess working together to create a whole. If one subprocess is removed the process will not work effectively. With combined action the subprocesses create a comprehensive planning process which the planner can manipulate. He may feel that the goal situation is the most important subprocess, a situation which could arise in the case of the planner being used as an outside consultant. He may be concerned only with the development of a master plan if the process is technical dealing with the measurement of issues mechanistically. Once the goals are in place the plan could be completed and the consultant's job would be finished. The other subprocesses such as alternative evaluation, monitoring, and system evaluation would be used to support the goal situation subprocess. The implementation subprocess could be excluded. To some planners this is the focus that the planning process should have.

Another planner, perhaps one working within the system of concern, may handle the process differently. He may emphasize the monitoring subprocess. The planning process in this case may be seen as being less technical. It may be more a function of melding the human dimension into physical and economic structures, where the planning model becomes more process-oriented.

From the above, it may be seen that the point in the planning process at which the planner focuses his emphasis affects the operation of the planning system. An equal emphasis on each subprocess gives a comprehensive balanced approach. Overemphasis on one subprocess tips the balance towards what perhaps is an undesirable planning model. A review of more recent planning models may show how this desire for balance helps to create a stronger comprehensive planning process.

3.4. More Recent Planning Approaches

3.4.1. More Recent Variations on the Rational Comprehensive Approach

The rational comprehensive model of planning is an approach that tries to consider every aspect of information that could affect the reaching of a goal. Friedmann states (1965, p.196) that:

> Comprehensiveness in city planning refers primarily to an awareness that the city is a system of interrelated social and economic variables extending over space.

The origins of systems planning may be in the rational comprehensive model of planning. Friedman suggests that the comprehensiveness is an awareness that the city is a system of variables. This approach to comprehension is made easier by identifying the systems that interact in the community and relating them to the planning system discussed in Section 3.3. above.

Stuart (1976) proposed a systematic approach to planning. The origin of this systems approach to planning seems to arise from the rational comprehensive approach. Stuart's approach fits within the definition of rational comprehensive planning stated by Faludi (1973a, p.195):

> ......whereby the programs put forward for evaluation cover the available action space, and where the action space has itself been derived from an exhaustive definition of the problem to be solved.

What do the new rational comprehensive models of planning have that the origin model of planning did not have? Stuart says that the development of a systematic planning theory does not depend on as strong a technical base as earlier planning models. He suggests that mathematical models are not as dependable as they were assumed to be. They should still be used, but only with other tools. The system of concern is analysed from a systems base. He recognizes the principle of bounded rationality. He argues that the system's analyses should be selective. That is, not everything can be studied, but the planner should determine at what level systems should be reviewed.

Systems analysis is a major concern in Stuart's model. But a second major concern of his model is evaluation of the planning alternatives. He clarifies the 'rational comprehensive' model of planning. His approach fulfills the criterion 'dynamic' that was missing in the original analysis of ideal planning models. The 'dynamic' criteria are fulfilled by an emphasis on repetition, revision and refinement of goals and objectives. Stuart's model has four steps:

Step 1. Identify goals and objectives
Step 2. Identify alternative programs
Step 3. Predict relative effectiveness
Step 4. Evaluate alternative programs

These steps are repeated, revised and refined until suitable goals and objectives are found.

Stuart's model, then, provides a plan that satisfies the dynamic criteria. In Table III his model is reviewed to see whether it includes all the subprocesses needed for a comprehensive planning process. From this table, it can be seen that Stuart emphasizes the alternative evaluation subprocess. The weakness of this model may lie in the implementation and monitoring subprocesses. The system description subprocess along with the goal situation one are given equal status. From these subprocesses Stuart is able to monitor the system of concern and repeat, revise and refine his goals and objectives. Development of monitoring and implementation subprocesses is not stressed.

Gillingwater (1975) develops a model of planning that also may have its origins in the rational comprehensive model of planning. This process is similar to that of Stuart. Gillingwater (1975, p.40) bases his planning process on Karl Popper's thoughts. He calls his model a 'deductive determinism' approach. The main point is that deduction rests on the assertion that the growth and development of 'objective knowledge' is based on a continuous search for knowledge and the solving of problems. Gillingwater further points out that the planning process is not cyclical. The problem identified initially is a different problem by the time it has been reviewed. The planning process is iterative not cyclical. The steps identified are:

1. Problem continuum
2. The potential solution space
3. Error elimination
4. New problems

The process is repeated. There is always a new problem.

This model also satisfies the dynamic criterion. In Table III, Gillingwater's model is analyzed against the subprocesses. The major emphasis is placed on the system description, goal situation and alternative evaluation subprocesses.

Stuart and Gillingwater do not ignore the implementation and monitoring subprocesses, for they are mentioned as a part of the first three subprocesses. The major emphasis of both models is upon identifying problems and then finding solutions. The models contain elements of the 'dynamic' criterion. By being iterative, they can solve problems and identify future directions. Both men have advanced from the rational comprehensive base from which their models seem to derive. They supply the planning process with a model that it truly dynamic. It supplies firm goals; yet, at the same time, reevaluates those goals on a recurring basis, so that they may be modified. This dynamic process is the one that is needed by the general urban open space model.

3.4.2. Recent Variations on the Process Approach

Burke and Burton have six - step models. These models might best fit under the general title of a 'process' model. Burke's (1979,

TABLE III

Identification of Major Subprocesses In New Rational Comprehensive Mode of Planning

Subprocesses of Planning / Rational Comprehensive Mode of Planning	System Description	Goal Situation	Alternative Evaluation	Implementation	Monitoring
Stuart's Systematic Planning	Step 1: Identify goals and objectives	Step 1: Identify goals and objectives	Step 2: Identify alternate progress Step 3: Predict relative effectiveness Step 4: Evaluate alternative programs		
Gillingwater's Deductive Determinist Model	Step 1: Problem Continuum Step 4: New Problems	Step 2: The potential solution space	Step 3: Error Elimination		

pp.155-158) model is a 'participatory approach' to urban planning. His steps are:

1. Identify a problem
    a. Understand the problem clearly
    b. Develop an organized effort to resolve it
2. Establish planning goals
3. Determine the elements of a plan definition necessary for achieving goals
4. Achieve acceptance of a plan
5. Implement a plan
6. Evaluate a plan - evaluate the effectiveness and efficiency of a plan

Step four is an important addition to most planning processes. Although, basically, an alternative evaluation, it adds what may be called a two-way communication process. Once a problem is identified in the community, and the planner develops alternatives, or an alternative that he thinks would solve the problem, it must be fed back to the people whom it would affect and to the decision makers who must take the responsibility for implementation.

Burke talks about legitimizing the planning agency. Legitimization takes place in two areas. The first is from the decision maker. It is the legal sanction to plan. The second means of legitimizing planning comes from the community. The planner tries to get support from individuals and groups in the community. Burke feels this involvement in the planning process will cause these groups to be committed to achieving the objectives of a plan (Burke, 1979, pp.52-54, p.158).

Once this commitment is gained, the planning process has a better chance of being successful. After giving sanction to the plan, these legitimizers of the planning process should obey the ground rules laid down by policies and policy instruments. When public and private actors maintain commitment to the plan, they may work in concert to see that it reaches its goal.

'Participation', one of the criteria that was noted as being too weak in the analysis of the ideal model of planning, is a vital part of Burke's planning process. In Table IV it can be seen that the major subprocesses of this model are goal situation and implementation. Compared with the rational comprehensive models looked at in the previous section, neither systems identification nor alternative evaluation is strong. Burke, however does realize their importance to his planning process. Monitoring as a subprocess is not covered. It is included as a minor process of the implementation process.

Burton has developed a six stage process as well:

Phase 1. Preparatory Phase
Phase 2. Background Studies and Analyses
Phase 3. Formulation of Planning Strategy
Phase 4. Policy Formulation
Phase 5. Formulation of Draft Plan
Phase 6. Final Plan Formulation and Implementation

Burton's second step adds a further dimension to Burke's participatory planning. It is the concept of using community surveys to gauge public opinion. These indications from the public are added to the other information gathered. This other information is similar in form to that compiled under the system description: for example, the compilation of past surveys done on the system of concern, analysis of financial and human resources, and study of the land.

Burton's third step emphasizes the involvement of citizens on panels or from the general public to review planning objectives and

TABLE IV

Identification of Major Subprocesses
In the New Process Mode of Planning

Subprocesses of Planning / Process Mode of Planning	Systems Description	Goal Situation	Alternative Evaluation	Implementation	Monitoring
Burke's Participatory Planning	Step 1: Identification of a Problem	Step 2: Establish planning goals Step 3: Determine the elements of plan necessary for achieving goals	Step 6: Evaluation of a plan	Step 4: Achieving acceptance of a plan Step 5: Implementing a plan	
Burton's Planning Process	Phase 1: Preparatory phase Phase 2: Background Studies and Analyses	Phase 3: Formulation of planning strategy Phase 4: Policy Formulation Phase 5: Formulation of draft plan		Phase 6: Final plan formulation and implementation	

existing conditions. He analyzes the actors involved in the planning process, and determines the activities in which they take part. For instance, in the preparation of an initial statement of objectives to be achieved, he feels that as many of the different actors as possible should be involved. The emphasis in this process is, then, that it is important to use the various groups of participants involved in the planning process in as many of the tasks as possible.

Burton does emphasize that, by presenting a sequential format of steps, the planning process seems to be linear. He (Burton, 1978, p.15) does state that the process in reality is an iterative one in which each task is related to those already completed, and those to be completed in the future. This sometimes calls for revision to be made.

Burton does deal with the system description subprocess and the identification of goals. Alternative evaluation is not emphasized other than as a review of existing conditions and a redefinition of objectives and policy. It is not a major subprocess. Monitoring as a subprocess is not emphasized and receives little notice except as one task in 42 tasks. It is included as a minor process of the final plan formulation and implementation.

Both Burke's and Burton's processes include participatory practices. Gold (1980, p.54) also suggests formation of user groups, to take part in the planning process. These participatory practices are indicative of a fairly recent adjustment of planning to work with the requisite variety that is present in the environment. Groups, (see Chapter 4, Section 4.4.2.) if well-constructed, can reflect this variety. It is also reflective of Batty's argument that planning theory is moving into the area of 'mutual learning' advocated by Friedmann (1973, pp.171-193). Participatory planning gives to the planning process a further source of wisdom and information. This extra source may improve the effectiveness of planning decisions. It gives the planning process support. The ability to ensure that this two-way communication process take place increases the ability of the planning process to become as varied and as different as the planned-for society or resource. It gives the planning process the variety to be effective. This lack of variety has been of concern to most planners (McLoughlin, 1969; Chadwick, 1971). This addition to the 'process' model of planning strengthens it even more, and in doing so strengthens the general urban open space planning process.

Two distinct planning philosophies are added together: one strengthens the 'rational comprehensive' approach, the other strengthens the 'process' approach. One subprocess, this study notes, is not given major emphasis. That subprocess is monitoring. These newer models of planning do show how to establish dynamic and participatory criteria in the planning process. If welded together, they have the strength to find problems and the method to solve them in implementing a plan.

3.5. Time

The planning models reviewed in this chapter are thought of as processes which take place over time. The planning model, when put in use, has a starting point and a point at which it may be thought to have ended. These two time phases are easily identified. This study believes that there are three other phases. Taking the four newer models of planning reviewed in Section 3.3. of this chapter, Burton, Burke, Gillingwater and Stuart proceed by a sequential form of development in their processes. All processes are thought to be iterative. If one phase/step of the process is missed, it can be recalled. The phases in Burton's model are interdependent, (Burton, 1976, p.59). He writes: "Each activity, as it is undertaken, will influence the other activities, causing them to be adapted and altered." Burke (1980, p.152) makes a similar observation about his planning model. He feels that the events as outlined in his process does not need to take place in a sequential order. He defines his phases of planning as decision points.

The position of this study is that the planning model is applied over time. The planner may have time limits imposed upon him, or may impose time limits upon himself. These time limits of necessity are distinct phases in which the planner may have accomplished certain tasks. From the initiation of the process to the end of the process, all subprocesses are in operation. The discussion below outlines them and the other phases of time in a planning process.

3.5.1. Initiation Phase

The decision to plan is taken and the planning process is initiated. The planner is able to be creative in this phase of the process. It is the most difficult phase, in that no path or plan has been chosen to follow. The planner has the freedom to choose what he wants to do. It is a choice made without the more comprehensive knowledge that will be gained in later stages. The planner will build mostly on previous experience and previous analysis, but he should adapt this to the unique system with which he is dealing.

3.5.2. Learning Phase

From the beginning of the process the planner has been collecting data. These data have been transformed by him into information in the systems analysis subprocess and the other subprocesses which have been functioning. In the learning phase these subprocesses get more specific in nature. The planner starts to refine the various functional activities. He, and the other actors in the planning and planned system, must start to make firmer decisions about future activity in each subprocess.

3.5.3. Adjustment Phase

This phase takes place when the majority of actors in the planning and planned system agree to a plan. The goal of this phase is to settle upon a solution to a problem which does the most good for those involved.

3.5.4. Confirmation Phase

This phase verifies that all subprocess activity is ready and capable of carrying out the plan. If not, adjustment is made to the plan.

3.5.5. Ongoing Phase

The outcome of the plan is not predictable. The plan must be relatively flexible, diverse, and representative of community values (Gold, 1980, p.27). Evaluation of economic, recreational and physical change takes place. The planned change is evaluated against change that was forecast. This shows whether the system is developing as planned. If the system changes, the analysis undertaken shows what changes take place and whether or not these are intended or unintended. If the population needs change over time, this should be fed into the decision making process.

3.6. Conclusion

The consideration of various planning models using Faludi's three dichotomies as a base, and the development of an abstract general planning process have led to several conclusions.

A dynamic, continual and iterative form of planning model is needed. The dynamic variable develops from formulation of a strong understanding of the systems influencing the system of concern, and the development of goals for that system. Planners have to deal with a quickly changing and turbulent environment. This work is helped by participation practices. The planning processes reviewed see monitoring, not as a subprocess, but as a function of other subprocesses. That this planning process needs a strong monitoring component is seen in the next chapter.

A trend of planning as determined by this study, is towards a participatory and people oriented planning model. Burton, Ellis and Homenuk (1977) identified this as one of the most important needs for open space development. Burke (1979) and Gold (1980) support this trend in their planning models. The conclusion that can be reached, then, is that participatory practice may be important when planning for urban open space. An approach such as this is, of necessity, one that can treat the needs and desires of the people in a certain area on a specific level. A unique approach which is needed for each situation in planning can be developed (Burton, 1977; Jaakson, 1981; Gold, 1980, p.27).

Planning includes the development of subprocesses over time, from initiation to an ongoing phase. A planning process cannot be adopted in ignorance, implemented in haste, or directed without a monitoring system. Planning can be looked upon as being made up of five different strands of muscle. The more each strand is used, the stronger each becomes. However, without exercise, the whole muscle may be affected, and it may atrophy and become useless. Planning can be seen as a muscle, but it is in reality a total system of its own. It is the nerves and muscle of an organization, and it can make that organization operate in the same way that a healthy, well-conditioned and balanced athlete performs when winning at his sport. With this in mind, this study will review the benefits to be derived from the monitoring subprocess, to see whether it can complement the strengths of the suggested general planning process.

CHAPTER 4

EVIDENCES OF MONITORING IN PLANNING

4.1. Introduction

Monitoring is an integral part of each time phase. It causes a planning process to be iterative, responsive and continuous. It should cause the planning model to put greater focus on people's needs. It is thought to be at least of equal significance as other subprocesses. The reasons for this statement will be reviewed. The literature has increasingly stressed the need for monitoring since the early 1960's.

When this subprocess is enlarged, other subprocesses, such as evaluation and review, are enlarged. Chapin and Kaiser (1979) and Kaiser and Reichert (1975, pp.527-565) have suggested a decision guide to planning which is in effect a monitoring system. It consists in a two-way communication process between the system of planning activity and the political system which determine decision guides and action instruments (for example, regulations). Faludi has mentioned that monitoring reveals results, and once the results of actions can be seen, then answers to problems can be found.

A second trend in the literature has been towards increased and continued public participation in the planning process, as noted in Chapter 3. Here, one sees either a unique approach to each new situation, or a planning process which is readily adaptable to different situations. The planner emphasizing participatory planning is aware of the processes that are taking place in the community and the impact a plan will have on people's lives.

The monitoring subprocess is an integral part of the planning process as discussed in Chapter 3, Section 3.5. And since the planning process may be a part of other systems, for instance a management system, the monitoring subprocess becomes important to that other system. The problem arises when defining whether or not monitoring fits within the planning system and can be used by the other systems. The monitoring subprocess may be seen to make the larger system responsive and adaptive to the planned or controlled system. The planning process may be part of other systems. How are these systems affected? Crompton (1977,p.55) shows planning to be a part of a recreation management system. He feels that the functions of management are divided into three general areas: planning, execution, and control. Planning includes input, process and output. That planning and managing can be separated as easily as Crompton states may be questioned. Monitoring, a subprocess of planning may be found in Crompton's last two steps as well.

Planning, then, according to Crompton, is a part of the management system. The view he takes is that the manager is responsible for the decision to proceed and continue with the plan. The manager as decision maker gives the planning process its legal sanction (Chapter 3, Section 3.4.2). Crompton's Recreation Management System is shown in Figure VII.

In Chapter 3, Section 3.3, the planning model was broken down into five processes. An overview of Crompton's model shows that these subprocesses are included in the first three steps of his model. System analyses, implementation and alternative evaluation cover the resources needed. The type of allocation and the goal situation give the objectives to be met, such as carrying capacity, quantity and

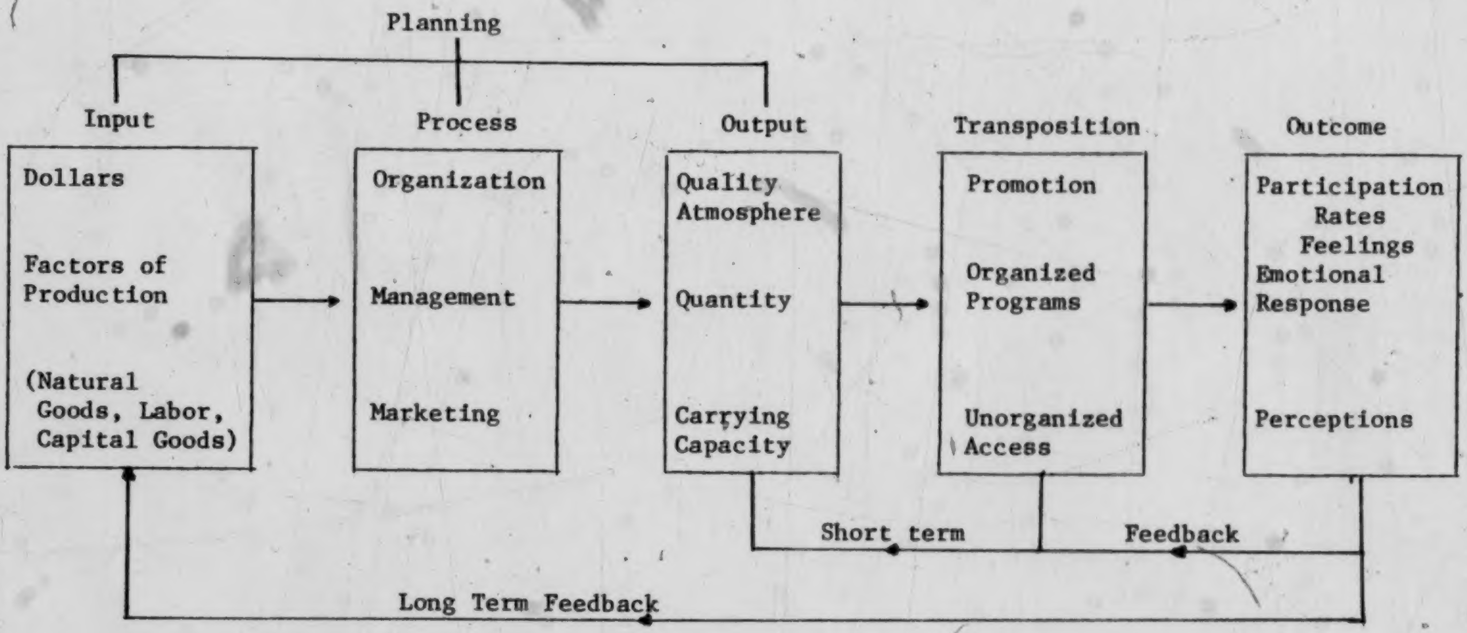

Planning
Input
Process
Output
Transposition
Outcome
Dollars
Factors of Production
(Natural Goods, Labor, Capital Goods)
Organization
Management
Marketing
Quality Atmosphere
Quantity
Carrying Capacity
Promotion
Organized Programs
Unorganized Access
Participation Rates
Feelings
Emotional Response
Perceptions
Short term
Feedback
Long Term Feedback

FIGURE VI A Recreation Management System

(Adapted from Crompton, 1977;p.54)

atmosphere. The decision maker is involved in the transposition step of Crompton's diagram. He must decide how to promote programs and how they should be organized. The outcome, his final step, can be determined by a monitoring process. Participation rates, consumer feelings, emotions and responses to a facility or program may be measured by the monitoring subprocess.

Crompton's management system could fit into a planning model, or the planning system could fit into the management model. The idea that they are closely related and dependent on each other may be the more relevant point for this study. It is necessary to monitor the implementation of a plan, and to see the outcomes so that the process can grow and develop in a continual way from this knowledge.

Crompton reflects the increasingly common view that results must be monitored. He has not said who should be responsible for this. As shall be seen, monitoring is a part of planning and is set up at the initial stage and developed throughout the complete process. A large part of the Crompton type of management system is the planning subsystem supported by a monitoring system.

Chadwick (1978, p.332) sees management and planning as being not the same thing, but overlapping. He sees planning as an anticipatory decision making process that receives information from the system of concern, and monitors change that is not planned so that it can help the decision making process. Chadwick holds that control, in the case of urban planning, lies with a legal body, a council, or the representatives of that legal body, the administrators. The managers control the power to direct and regulate the process by their authority. Planning, then, is only a part of the process of management. Until control becomes a part of planning, the latter will remain part of management. The anticipatory decision making process is controlled by 'management'. The strong interrelationship is there, but planning is only one part, while control of the process is another.

One fundamental need of management is for information. It is necessary at all times, both for planning and control. Without information, neither function could be properly undertaken. The point to be made is that planning has a subprocess, monitoring, which brings in data from the system of concern. These data are turned into information and sometimes intelligence by planners to assist 'managers' to make decisions. The systems of planning and management are not necessarily readily identifiable, but these parts of a system can be identified, via the division of responsibility.

Emery (1970, p.V) believes that the planning system functions efficiently only if it has a well developed information system. Planning is dependent upon the control of information, so that proper intelligence is relayed to management. Emery suggests that planning can be assumed by a man-machine network. Management can establish its information needs, feed these into a machine and receive all necessary intelligence about the planned system.

This simple view of information processes does not make a planning model which is realistic. It ignores the creative aspect of planning, the interpretation of the information, and its relation to the unique planned system. The planner makes value judgments and interprets what is transmitted from many information sources. Each unique system has different indicators. Stuart (1976,p.V) says that the quantitative mathematical models that Emery suggests as supporting his information system should no longer be the primary function of systematic planning techniques. They may be used as a secondary base of intelligence. The planning process incorporating monitoring must be able to adapt to each unique situation. The planner should be aware that both processes are part of a larger system. As such, they will be able to deal with each new contingency as it arises.

Planning, and therefore monitoring, will be looked at as an integral part of the management process. Monitoring should be considered as the mechanism that captures information for both these processes, and is the foundation for both.* According to systems theory, informational transposition is what provides the life force or energy for the planning and/or management system. This chapter reviews how this process takes place, and where it should begin. The new emphasis on monitoring is a change from the traditional monitoring process. Because of this, there is a need to redefine monitoring, and re-examine how it influences other aspects of 'traditional' planning.

4.2. Redefinition of Monitoring

Monitoring, as described by Paul Haynes (1974, pp.18-20) is the search for information about a system of concern. The monitoring subprocess would tell the planner about the changing relationships between the components of that system, intrusions into that system by other systems, and any new knowledge that may develop from research and investigation which could affect development of that system. The intake of this information is done by the planners through a monitoring subsystem. Information that requires a management decision is given. If the management wishes more information, it can be demanded from the monitoring system. In the last chapter monitoring was looked upon as providing the information needed to gauge the real success or failure of implementation in planning. Roberts (1974,p.6) notes that it is

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*Systems theory intimates that information acts as input into a system. Information is the energy that prevents the death or negative entropy of a system. Hence increasing information is the same as decreasing entropy (Letterer, 1973, p.5)

> .....a systematic observation of what is occurring, and a large quantity of data will need to be held and up-dated.

She suggests that planning must be flexible, and that there should be a provision for the modification of policies, including monitoring procedures, to see if things are working out as anticipated in a plan, and that feedback of information should be received to review policies. In relation to monitoring she says:

> More and more, the perhaps unpalatable truth is dawning, that one of the greatest uncertainties is that our plans will be wrong,.....our preoccupation should be to devise new approaches and techniques for coping with uncertainty. (Roberts,1974,p.59)

She also suggests a solution: that continuous planning take place with continual judgment of what is happening to the planning action, in other words, monitoring. This monitoring of situations will cause a continual adjustment of planning action to what is observed, and suggests a new interpretation for evaluation: it must be done continuously. There must be a continued comparison of possible courses of action.

The planning process does not start with implementation. It starts with inventories, reviews and analyses of systems. Prior knowledge, or experience is helpful in establishing what is needed to develop a monitoring system. This prior knowledge may be augmented by an ongoing monitoring of critical research and investigation being carried out by other planning agencies. The planner may then become aware of new developments in theory and planning knowledge.

The most important characteristic of monitoring is that it supplies the planner with continuous data. These data come from varied sources. The continuous flow of information provides the system with knowledge. It prevents the system from stopping its progress. If no information were coming to a planner, he would not know what was happening in a system of concern, or the environment surrounding it. If advice on a decision were asked of him, his basis for responding might be weak. If management made a demand for more information from that planner, he might not be able to supply it. The manager would have to develop if from other sources. Without information, the planning process is more likely to fail.

Another point about the incoming information is that the wider the number of sources it comes from, the greater the planner's ability to judge what is happening in the monitored system. This ability to judge correctly may lead to a stronger base for decisions by the manager, and thereby increase the planner's credibility. The sources could be the citizens or other planners or politicians and so on. The more channels used, the greater the reliability of the planning system (Chadwick, 1970, pp.3-5).

Webber (1965, pp.289-296) outlines a decision aiding process that yields intelligence that could support rational development decisions. He proposes the establishment of 'intelligence centers' to supply improved inventories and forecasts which will give an adequate description of the urban systems structure.

The above writers have the same version. They perceive the need for a continuous method of interaction between the planner and the planned system. A definition of monitoring to be used in this study would be as follows:

> It is the continuous collection of information from the planning and planned system about the system of concern. This process is carried out so that the planner and manager responsible for changes in the system of concern have an immediate reliable data base from which to make decisions.

4.3. The Start

A number of principles that regulate the monitoring subprocess should be established. These principles ensure that the monitoring subprocess will run efficiently. The first principle that may be used has been identified by Hirsch (1965, p.19). The planner may try to open all communication channels necessary. He should identify information fields, and to whom the information obtained should be transmitted. For instance he could identify the decision makers who will receive the information, or his fellow planners, or other people within the system that need the information. These people should be approached and questioned as to the needs that they have for information and the form in which it is required. For instance, should it just be compiled, or should it be classified and alternatives suggested. The responsibilities that these people are to have towards the information should also be identified.

After establishment of the information to be collected, a second principle emerges, which has been suggested by Godbey. It is that monitoring should take place on a longitudinal basis. Information collected only once does not have much value. Information must be compared with other information to determine if there is any change. A framework for information collection should be devised and carefully developed through time, using the same indicators and measurement devices, adding more if necessary, or deleting indicators that are inefficient. Thus, each time the indicators or measurements devices are used, they can be evaluated (compared) reliably. If each time a phenomenon in the system of concern is monitored, and a different indicator or measurement device is used, the evaluation would be unreliable and of little practical use.

The third principle is that the monitoring subprocess should incorporate communication channels that have the ability to transmit information both ways. The monitoring process should be a reciprocal one. If important information is collected, it should be fed back into the system from which it was collected. If a decision is made about that information, this decision should also be transmitted back to the system. The two way communication may help the system of concern understand how and why the planner or decision maker is taking action. It may prevent an incorrect action from taking place. It may develop a feeling in the system that the people involved are part of the planning process and, in consequence they may become more committed to it.

The fourth principle is similar to the third. It is that the monitoring process should develop many sources from which to receive information within the planning system. This principle suggests a high degree of external connectivity with the planned system, and especially the system of concern (McLoughlin, 1973, p.233). The wider the number of contacts, the more reliable the information may be. It does not necessarily follow, but perhaps the system would be more willing to support a plan if it was aware of what was happening and why.

A fifth principle concerns the planning system itself. There should be a high degree of internal connectivity (McLoughlin, 1973, p.233). This ensures that each member of the planning system is aware of what is happening within the planned system. It also ensures that the information that is received is understood, so that the planner can evaluate and interpret it as objectively as possible.

The last principle has to do with the validity of the measurement devices used. Indicators used should measure what they set out to measure. Surveys should be tested by pilot studies. All reasonable means to ensure validity should be employed. This ensures that by the end phase of the planning process the planner can be confident that his measurements are valid. He will also be aware that the availability and quality of the data (actual or surrogate) to be used, may be determined as the monitoring process develops.

Employing the analogy from Chapter 3, p.100 of the planning process being the muscles and brain of an athlete, we can see the monitoring process as the senses of this human - the outer skin, the eyes, the smell and the hearing. If the human does not adjust to his environment, he may be injured or reach a state of maximum entropy. The human who is especially aware of his environment is the one who is most successful in reaching his goals. The athlete must be aware of his abilities, his training program, the goals and objectives to be reached by his program, what the competition is doing, and what his coach (the decision maker) is demanding.

4.4. The Environment

How does the planner know what to sense, or to monitor? Starting with the establishment of the planning subprocess systems analysis, the planner has an immediate advantage in choosing what indicators or information is important and what is not. Systems analysis allows the planner to look at interrelationships that exist among the various components in the environment and the constraints that affect the delivery of services on both a macroscale and a microscale. In viewing these interrelationships some general areas can be identified (Edington and Williams, 1978, p.147).

The first of these areas is the relationship between the various systems. The influences these systems have on the system of concern are affected by the communication links that exist between the one system and others. For instance, the political system may influence whether a system of concern is able to get a plan for change by making a decision as to how the resources will be employed to assist in the development of a plan. If there are changes to either system, immediate information is needed by the planner so that he may adjust.

The planner needs to monitor change in the total planned system. The change that is occurring in the system of concern demands his immediate attention, but the impact that change has on the other systems, may influence the system of concern. For instance, budget cuts to one government department may prevent the delivery of a service necessary to the system of concern.

A third area to monitor is the planning system itself. It, as well as the other systems, is being carefully watched. It may be important to recognize, interpret and develop indicators of effects on the planning process. This could be a change the decision makers will make, but it could also be a change due to political developments or changes in management philosophy.

The last monitoring area suggested may be that of assessing the values of specified actors in the planned system. These actors could be individuals or groups who may have influence in relation to the plan, or who may be assisting in developing supportive public opinion. They could also be individuals or groups who may influence the success or failure of certain parts of the plan.

The development of the monitoring activities allows the planner to have a fuller and ongoing understanding of his planning system and of the planned system. Each monitoring area may be seen as interrelated to the others and not separate. The identification of patterns of interaction allows the planner to pinpoint actors who are responsible for crossing the boundaries of various systems. An example is a developer's representative who may be the person who is trying to encourage other people to support the developer's plan. The planner can establish who has the most influence on decision makers. This could be, for example, the Commissioner who can control all information that goes to council. The plan can determine the impact of certain conditions on physical, economic and recreational values. When the planner reaches the point where the goals, objectives and programs are set, this knowledge can be used to establish what indicators to monitor, and the best methods of obtaining information from the system.

4.4.1. Indicators

The use of indicators is still in a development stage. There are different indicators used by different professional or technical groups. The physical indicators used by a biologist, botanist or geologist may indicate overuse of land, by such measures as the destruction of animal habitat, the loss of certain species of plant, or extreme erosion. These are physical indicators. Physical indicators are similar to economic indicators. The most common economic indicator is the Gross National Product which can show how healthy our economy is. It may be used to decide what sector of a national economy has to be developed. Physical indicators have not yet been developed to this point because they have not yet been employed over time (House and Gerba, 1975, p.204; Godbey, 1981). They show that problems exist in the bio-physical realm, but professionals are unable to predict why or when a critical point may be reached.

Social indicators are in a similar stage of development. Social scientists may indicate dissatisfaction or concern with an issue, but are yet unable to determine what causes may have what effects on an area. This may be a direct result of the diverse needs of groups and of individuals.

Although the monitoring process must depend on indicators, and the reliability of these tools is questioned, monitoring would be ineffective without implementing some type of measurement. As these indicators continue to be used and tested, their reliability will hopefully grow.

Indicators are classified by the type of information they provide. They may deal with physical, economic or recreational values among different population groups or in different geographic areas. Stuart (1976, p.148) identifies three types of indicators. The first is the 'social indicator' which reflects general community change. This indicator would measure how well-off an urban area is. It is an area-wide measure. An example may be the socio-economic characteristics of an area as demonstrated through census tract data. The second type of indicator is an 'impact indicator'. This indicator reflects the effectiveness of the plans of an agency or its programs. It measures whether the tasks or actions of individuals or groups are being accomplished on schedule. It is, therefore, a measurement of cost effectiveness in its widest sense. It can also measure changing attitudes. If a task or action is not completed, there may be some reason, such as lack of resources, or a change in the feelings of a group about assisting with a plan. The third type of indicator reflects managerial and financial assessment of programs. It is a performance indicator. The importance of monitoring the needs of management was stressed earlier in this chapter. These indicators show what management feels about the programs being put into the system of concern. From these indicators the planner may determine what resources he needs that may not be provided by management. In contrast, he may be able to justify a program that management may not think justifiable. These indicators compare observation of the past and present states of a system. They can also be used to make conditional predictions of the future state of the real world (Boyce, 1970, p.152).

From these indicators the planner may see what stage the implementation of his plan has reached, the amount of impact it is having on the system of concern, and the support that he is receiving from his managers. When the indicators are in place, the planner may be able to determine their validity and reliability.

The planner may continue to improve and refine his indicators through continual research into their validity and reliability. If he does so, he will create more powerful means of assessment. He may from this research and practical use of indicators be able to develop more effective indicators.

4.4.2. Methods of Measurement

A number of methods of collecting information exist. Any method should serve a dual purpose: first, to involve people in the planning process; and second, to indicate the direction in which the planning process is going. Burton et al (1977, pp.92-93), the Parks and Recreation Master Plan, 1979-1983, (City of Edmonton, 1978, pp.30-31), Gold (1977, p.85), Burke and Wright, and Runyan (1977, pp.125-135), have all discussed a number of methods of obtaining information from groups.

Burke (1979, pp.90-107) indicates what he calls a number of strategies for Citizen Participation. Although his techniques are not a 'pure' form of measurement, they may be used by the planner to involve people in the planning process. The groups, if formed, may feed back to the planner information about the plan and the plan's impact on the group. The goal is to involve people from a system of concern within the planned system, to use these people as a source of wisdom and information, to protect individual and collective rights, and to organize approval and support for a plan and program goals. There are a number of methods of involvement.

The first Burke calls the 'education therapy strategy'. It is used to increase the competence of individuals in the community so that they can take part in civic affairs. The group plan is to build self confidence in individuals so that they will help in a task oriented planning process. Burke observes that participants resist the educative needs when they are oriented to tasks.

A second method of involvement is developed to induce change in a system by changing the behavior of that system's members or influential representatives of that system. It is called a behavioral change strategy. The group is formed on the premise that it is easier to change an individual when he is a member of a group. The individual and group should be presented with convincing arguments for change. If the group concensus is favorable, the planner may gain support.

The third strategy is to ask for volunteers from the system of concern. It is called a 'staff supplement strategy'. The recruitment of citizens to carry out tasks for the planner because of his lack of resources to carry them out himself makes the assumption that the planner may have limited expertise. The volunteer will help with his knowledge within a specific community.

The fourth strategy is that of cooptation. The goal in this strategy is to prevent anticipated obstructionism. The dissident groups or their leadership are absorbed into the planning system. The benefit in this case is for the planner exclusively. It may, however, be wise to not interfere with obstruction, and to have alternative viewpoints within a system to evaluate plans and program goals being used.

The fifth strategy is that of getting the majority of people in a system of concern firmly in support of a plan. Once this is done, the planner or a representative can confront the existing authority with the power of numbers. This is referred to as an 'advocacy strategy'.

In contrast to this strategy would be the 'community power strategy'. The idea behind this is to find the most powerful group in a community and then persuade it that a plan is the most reasonable for the community. The power of this group is then used to overcome any opposition.

Through these strategies the planner sets up and maintains community networks. He can either monitor or modify the situation in a community. The involvement by the planner in these strategies means that he is aware of the ongoing situation within the system of concern, and can modify the plan as needed to adapt to this situation.

The development of a monitoring system involves a two-way communication process. Jaakson (1981) has identified an issue-related technique for this. It is a checklist method in which the most significant anticipated impacts are noted on a list. These lists are passed out to people at a public meeting. They identify what to them may be significant or insignificant issues. There is also room for identification of specific areas that may be of concern to them but are not noted. This process indicates areas of interest to the residents, and can measure the significance of some impacts for them.

A second method is the community recreation survey. It is designed to identify the needs of a population. From this document, area-related needs, area-specific standards, and the identification of cross-related variables can be undertaken.

A third method is the citizen brief. In this case a commission or a board may be set up to accept briefs. It could compile the recommendations from the community. These recommendations, and the opinions of the board or commission, could form the basis for a plan. The board or commission could also stay in existence throughout the planning process acting in an advisory capacity and soliciting further information from a system of concern.

The fourth and fifth techniques involve group meetings. The large group meeting is sometimes useful to generate inputs. The planner decides on the agenda and may find that he can get useful information from these meetings. He may receive suggestions, such as how to monitor impacts. He may be able to identify actors who can advise him on changing conditions. If necessary, the large group can be broken down into smaller ones. This allows for two-way communication from individuals who may feel uneasy discussing concerns in a larger group setting. These groups may indicate that certain strategies are needed. The small group meetings may continue with the intent of carrying out these strategies.

Other methods of measurement may be used as well. They will complement those above. Mass media can be used to elicit reactions from the community. Perhaps responses about community change, when tasks or objectives toward a goal have been reached, may be asked of newspaper readers. Telephone surveys can be taken over time. Workshops can be held about a specific concern or problem. Field observations, aerial or time lapse photography may be used to determine behavior or use/non-use of certain areas. All of these can help the planner to evaluate goals, objectives and strategies.

Using these techniques, the planner can evaluate what is happening in the planning and the planned systems. To use all of these methods of measurement may not be possible. Each system of concern is unique, and different indicators or measurement techniques may be found to be more suitable than others. The reliability of information is increased when two or more sources report similar findings. The planner, then, should try to create a situation in which he is able to confirm or improve his measurements and make sound judgments.

In sum, the planner may use varied methods to monitor a system of concern. Each method should contribute to the reliability of the others. Indicators are difficult to formulate (Rose, 1979, p.31), but they provide the planner with the knowledge needed for planning. The date provided should be readily available and readily comparable over time. The amount of time taken to identify problems should be reduced as the monitoring process develops. The quality of the monitoring process is therefore dependent on the quality of indicators, measurement techniques and participation.

4.5. The Management of Monitoring

Monitoring is a subprocess of planning. Planning is controlled by the management system. Therefore, monitoring is an integral part of the management system. If the planner wants better performance from a planning process, he must insist on it. When initiating a planning exercise, performance standards should be set for monitoring. Information should be reliable, up-to-date and credible. The collection of data should be as complete as possible. All interactions between systems should be known, and an information flow showing preliminary required indicators should be set up. Planners must receive continued feedback from the planned system. Citizens who have been involved must also continue to receive information.

If an inventory is taken at the initiation of the planning process, and the goals are set based on that inventory, conditions may change over the period it takes to complete the plan. The final product may be relatively ineffective. There may also be a lack of commitment in the community towards the plan, if continuing progress is not seen or if the citizens are surprised by unforeseen developments. There must be systematic and frequent means for assuring the timely discovery and resolution of problems and changes, and the communication of information between those involved in carrying out critical action plans. The disappointment that a planner may feel if the plan he has helped develop is not used may be a direct result of his failure to invest in and use a monitoring system.

A continual insistence that change, whether intended or unintended, be observed and reported, is one of the ways to ensure the probable success of the planning process. The monitoring subprocess will indicate how much freedom and autonomy are needed to design new or alternate methods or procedures to reach objectives. The monitoring subprocess can indicate also whether a mechanism is needed, or what resources and authority are indicated in certain projects.

It is noted that without this management of monitoring systems, ineffective monitoring will likely take place. Most planning models incorporate monitoring into the implementation phase. Wilkinson (1981) has mentioned that although monitoring is acknowledged in the literature, and incorporated into every master plan that he has read, none of these plans say how to monitor.

The planner should manage and control the monitoring system. It is an essential subprocess of the planning process. With this subprocess the planner may be able to work through his plan with the support and knowledge of the system of concern. Without this subprocess his effectiveness may suffer.

4.6. Conclusion

Monitoring has not developed to the point where it is used effectively. If a model of planning is proposed that is said to be iterative, responsive and continual in its format, but does not incorporate monitoring, it is simply not responsive, nor iterative, nor is it continual. It may be a series of blueprint plans, or it may be a disjointed incrementalist plan. The planner, through his monitoring system, may be able to evaluate past performance, review existing and proposed policy, and determine the relevance of the process to the planning and planned system.

CHAPTER 5

A SUGGESTED FRAMEWORK FOR URBAN OPEN SPACE PLANNING

5.1. Introduction

This study has now reached a point where an Urban Open Space planning process can be proposed on the basis of a synthesis of material thus far discussed. Figure VII depicts this process in graphic form. Table V shows this process in point form. Figure VII shows a two dimensional axis. On one axis the planning model spins through time, starting with the 'initiation' phase, proceeding through the 'learning', 'adjustment' and 'confirmation' phases into the final phase 'the ongoing phase'. On the other axis stands the planner. The planner's axis is multi-dimensional in that he has to control and guide the many subprocesses within the planning process, so that they are able to proceed steadily through time in making a plan. The planner guides the process over time by gauging the various political, economic, physical and recreational environments which may influence the planning process. Finally, the planner on this axis is aware of the macroenvironment in which the planning model exists.

At the center of the planning system, and the reason for developing a plan in the first place is the system of concern, the system within the planned system from which issues and problems develop that may need a solution. The planning process itself is made up of the four subprocesses. These are surrounded by a fifth subprocess which is the sensing network of the planning process. It monitors all relevant activities that are taking place within the planned and planning

Figure VII
THE PLANNING PROCESS

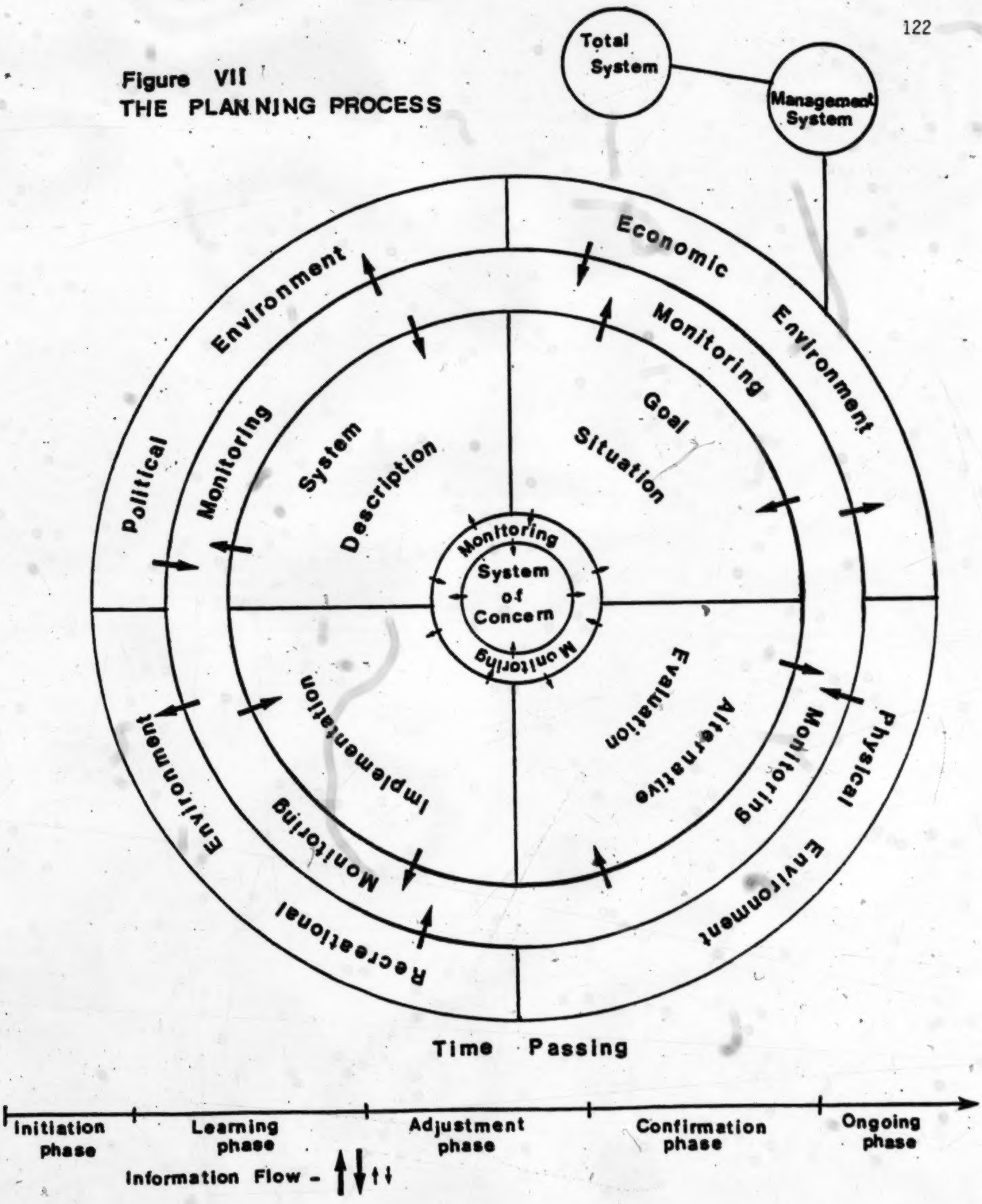
Total System
Management System
Economic Environment
Physical Environment
Recreational Environment
Political Environment
Monitoring
Monitoring
Monitoring
Monitoring
Goal Situation
Alternative Evaluation
Implementation
System Description
Monitoring
System of Concern
Monitoring
Time Passing
Initiation phase
Learning phase
Adjustment phase
Confirmation phase
Ongoing phase
Information Flow – ↑↓↑↓

TABLE V

THE PLANNING PROCESS

Planning Subprocesses / Time Phases	Systems Description	Monitoring	Alternative Evaluation	Goal Situation	Implementation
Initiation Phase	1. Identify system of concern 2. Identify environmental influences 3. Historical development of the system of concern	1. Develop indicators to be used 2. Decide best methods of information collection 3. Means of communication	1. Determine priorities and preferences of the actors 2. Weight of alternatives 3. Measure feasibility of alternatives	1. Formulation of preliminary goals and objectives	1. Establish methods to develop commitment to a plan
Learning Phase	1. Historical review completed 2. Influencial trends affecting urban open space use established 3. Clear conception of system of concern and influences upon it 4. Legal condition of land established	1. Establish the monitoring process a) All monitoring tools developed b) All communications links established 2. Surveys should be completed or well established	1. From intelligence gathered the best method of evaluation is determined 2. A selected set of programs is analysed 3. Possible future states are evaluated	1. Formulation of firm goals 2. Review and evaluation of these goals 3. Limitation of goal reduction	1. Resources needed for implementation 2. Resources should be made aware of their responsibility
Adjustment Phase	1. All identifiable trends and forecasts have been analysed and synthesized	1. Continual evaluation of ongoing status of important systems 2. Indicators established 3. Measurement design for ongoing information established	1. Plans for reaching goals assessed 2. Determination of a preferred final plan	1. Goal reduction takes place 2. Schedules developed 3. Coordination of resources	1. Establish commitment from resources 2. Develop strategies to overcome problems 3. Sequence activities
Confirmation Phase	1. Ongoing evaluation of data 2. Measurement of impact of goals, programs and tasks on systems of concern	1. Continuous monitoring to prevent unknown problems influencing plan	1. Feasibility testing for effectiveness and efficiency of alternatives	1. Approval of plan 2. Ability to adapt by modification of task sequences	1. Resources assigned 2. Legal regulations established 3. Operationalization
Ongoing Phase	1. Measure planned change against forecasted change	1. Established indicators and measurement techniques provide a comparison over time	1. Any change necessary is evaluated	1. Goals and objective are firm 2. Modification takes place as necessary	1. Continues until a new process needed 2. Resources are kept flowing into planned system

systems. The planned system is represented by the five subprocesses. The figure demonstrates the interrelatedness of these systems through the information flows sent to and received by the actors of both systems. The planning process may be seen to be operating as an integrated process over time. The continuous interaction of the planner with other actors, the responsiveness through information flow, the participation of all actors within the planned and planning system creates a dynamic, forward-looking planning model. This model meets the requirements of the ten criteria established in Chapter 3. The suggestion of this study is that it may meet a need for a comprehensive Urban Open Space planning process.

Open Space, as Abercrombie found in 1944, is indeed a multi-faceted and varied phenomenon. To measure the total implications of providing open space may not be possible. The level of information needed to plan is decided by the planner. The planning subprocesses must then be adapted by the planner to reach this level of information and deal with it. Each time phase may bring a different set of circumstances to the planner's attention. The planner may have to readjust the planning process so that it can meet its objectives and tasks through coordination and the organization of each subprocess. The level of information, and therefore the resources, will have to be adapted to meet the change which occurs over time. The theoretical model presented may allow him to do so.

The decision to initiate a planning process is taken. The planner starts planning by developing each subprocess concurrently. This chapter reviews the development of the planning process from initiation to ongoing phase.

5.2. Initiation Phase

The planner receives authorization to proceed with the planning process. Burke (1979) refers to this as the legal sanction to proceed. The planner sets the planning system in motion. The first time-phase is important to the planner in that he tries to establish the foundation for the following time-phase. What he does in this phase may affect whatever follows in each subsequent phase.

5.2.1. System Description

The planning function is presumed to be necessary. An attempt to identify clearly the 'system of concern' is made. This may be a city park, neighborhood park, a subsystem space, such as a connecting footpath or bikeway, or conversion of a hydro corridor. Identification is made of political influences, such as decision centers, influence groups, knowledge sources and sentiment groups (Burke, 1980, p.147). Environmental factors include population structures, physical structures and their function, water, energy and material flows (Stearns and Montag 1974, p.62). Socio-psychological effects should be measured: that is: What do residents want from the system of concern? What may happen if expected needs are not met? What are the economic, recreational and physical relationships of the system of concern to the residents? These may include the maintenance costs, the costs of land development, and the financial ability of the surrounding community to afford the land (See Chapter 2).

Added to the above information could be the history of the urban open space. Other studies that may have been done in the area, or an adjacent area, can give important information to the planner. Existing

Bylaws, legislation or proposed legislation may be relevant to the system of concern to be reviewed.

5.2.2. Monitoring

From system identification, and as part of it, information needs are established. Jaakson (1981), for instance, states that issue identification is one of the initial steps in the planning process. From this initial information, a series of indicators is identified. One of the most relevant sets of indicators concerned with urban open space use is the socio-economic characteristics of the population surrounding the open space area. A breakdown of such variables as age groups, or wages earned (which are felt to indicate recreation needs) are a necessity. He feels that census tracts can be used to indicate the various needs of the population. Marcin and Lime (1977, pp.42-53) have used a typology similar to earlier models employed by Burch (1965, 1968). This indicates changes in education and socio-economic states which effect demand for recreation and space over time. The changing physical structure of the land should also be monitored. If an Environmental Impact Statement has been prepared, the status of the physical characteristics of the land should be checked and monitored over time, and compared to see what change has taken, or is taking place.

What may be done in this phase is identification of economic, political, recreational and physical indicators. Methods of collection are determined. The use of consultants or professional experts in specific fields may be used. These professionals can develop indicators that show change in the physical, economic or recreational relationships of man to the urban open space. Instruments that may be used include surveys by telephone, interviews and questionnaires. The use of participation techniques as suggested by Burke (pp.116-118) may be found necessary. Another method is for the planner to set up an advisory group to collect information.

Any and all information of importance to the system of concern is developed and passed to the planner for analysis and synthesis. The control of the information flow should rest perhaps with the planner.

5.2.3. Goal Situation

From the synthesis of data, a number of goals, or problem areas are considered. In this first sequence, preliminary goals and objectives should be formulated. The opinions of all groups should be solicited, and their various goals should be noted.

5.2.4. Alternative Assessment

From the systems analysis and monitoring system, the planner may learn the thoughts of actors throughout the planning and planned system. The planner can determine the priorities and preferences of the actors. To establish priorities and in establishing weights to be given to alternatives, it is necessary to know what the actors would like to see happen to the system of concern, what their desires are, and what forms of development they would find unacceptable.

The planner, if he has alternative approaches to the establishment of a plan, may set up a dialogue with the residents, other planners, politicians and other actors. This dialogue may determine the feasibility of these alternatives. It may show that certain resources are available or unavailable in a planned system. It may show that an objective is unrealistic or cannot be reached until some other condition is satisfied. If this is determined in the early stage, the planner may put the unrealistic objective aside, saving time and effort.

5.2.5. Implementation

The earlier the planner develops the resources to implement objectives, the more successful the plan will likely be. The establishment of a commitment to end goals starts here. Godbey (1981) mentions that problems may be identified, but there is no commitment from the planned system to help solve them. Without public support a plan has less chance of success. Problems may be discovered that impede implementation later. One problem may be that few people wish to become involved in the planning process, or community groups may be in direct disagreement with each other. Jaakson (1981) notes that sometimes there is a lack of participation from community sources.

Means of dealing with these problems should be developed. As suggested under the monitoring subprocess, formation of cooptation or education groups is possible. Clawson's (1962) suggestion for the formulation of interest groups may also be used. These groups act as 'watchdogs' over open space, and at the same time promote the use and the cause of urban open space. If commitment is found, with participation in the community, two-way communication should be promoted, and if there are more interests with different viewpoints, dialogue should be established between the groups.

5.3. Learning Phase

Two to three months after initiation of the planning process, the subprocesses become more specific in nature. The planner starts to refine the various functional activities.

5.3.1. System Description

A knowledge of similar plans for similar areas should have been obtained and reviewed. All necessary maps and surveys of the area have been established from past studies, or necessary studies developed especially for this exercise. A clear conception of the present system, and other systems' influences upon it, should be developed. A forecast of all trends affecting the use of urban open space should be made. All uses that could be made of the specific urban open space under study should be developed and documented. The legal condition of the land should be reviewed. The economic, political, physical and support groups that are available and may be used as resources are noted. The planner may check his communication links within the planning and planned system to ensure that the flow of information is not blocked at any point.

5.3.2. Monitoring

It may be best to establish firmly the monitoring process in this phase. Strategies for relating information inputs to the various systems are identified. An example is the feeding of system problems to the decision center, as noted in Chapter 4, Section 4.3. The design and organization of a land use survey may be completed. All measurement tools to be used could be completed or ready for application. Telephone surveys, meetings with groups and an ongoing dialogue with actors may be completed. Advisory or public interest groups may be organized. Information about urban open space development that is found to be appealing to the public may be filed to be used at a later time for publicity.

Strategies for monitoring to test reactions to goals and objectives is established. This may be done by survey, by a checklist format, or at a meeting, but the approach must remain reliable over time. Procedures for interpreting goals to the planned system should also be formulated.

5.3.3. Goal Situation

From the information obtained and the initial formulation of a conceptual or preliminary set of goals established on the initiation phase, a number of firm goals is formulated. These goals should be shown to groups and actors in the community. The information flow may help the planner decide what goals are most appropriate. The participation of actors from the planned system may help the planner judge the feasibility of these goals. By the end of this phase a set of goals can be established. The general goal may be similar to those reviewed in Chapter 2, Section 2.5 relating to the desirable urban environment and the relationship of urban open space to man. Final goal articulation as well as goal reduction is developed with the thought that they be made operational.

5.3.4. Alternative Assessment

Intelligence comes to the planner from the monitoring and system analysis subprocess. This intelligence helps him to determine what method or needs would best fit the planned system and could be used by the planning system. The alternatives that are to be considered may be determined to be suitable or unsuitable from the interaction that the planner has developed with the actors in the monitoring and system description subprocesses. A selected set of programs develops. Each program may be evaluated by cost benefit analysis, the planning balance sheet, or the goals achievement matrix noted in Chapter 3, Section 3.3. To further develop this process, possible futures in the recreational, physical and economic relationships of man to the urban open space may be evaluated, (Gold, 1980, p.35).

5.3.5. Implementation

A clearer conception of the resources available for implementation will have been identified. Clear areas of responsibility will have been established. These areas of responsibility do not need to be written, although when it is an actor with an assigned responsibility in the community, a written contract is stronger than a verbal agreement. An example may assist understanding in this regard. If an area is especially fragile in terms of destruction of ecological niches, an interest group could be established to watch that area to ensure that it is not destroyed. A written contract may not be politically feasible for the agency, nor may it be desirable. Hence, it may be necessary to establish a verbal contract. Schein (1965) talks of a psychological contract between an organization and an employee. This contract is understood by both parties and honored by both. The consideration in this phase is to establish a stronger commitment by the actors, and the planning agency, to the development of a better future state. The unique recreational system within that community, and the terms of reference to be incorporated in the goal reduction subprocesses, should be established.

5.4. Adjustment Phase

This phase is the one in which all the factors considered are hardened into a plan agreeable to the majority of the actors. The goal is to settle upon a solution to a problem which does the most good for the majority of people.

5.4.1. System Description

The system of concern has now been outlined as specifically as possible within the abilities of the planning agency to do so. All identifiable trends and forecasts have been analyzed and synthesized, and the best possible picture of the system of concern is presented.

5.4.2. Monitoring

An ongoing evaluation of the incoming data has been developed. Indicators have been established, and show what is happending within the system of concern. They have been checked for reliability and validity, with some having been discarded, and others enhanced.

An ongoing design of actor involvement should be established. It may be in the form of an advisory board in addition to the use of interest groups as suggested by Burke. Full participation is encouraged, and values, issues and new developments are reviewed. Contact with decision makers is continued. This information is fed back into the systems analysis subprocess. The planner through this subprocess is always aware immediately of problems within the planned system. The monitoring activities are finely tuned, so there is little time lag between the recognition of a problem and the planner's response to it.

Strategies are developed to involve the general public and other actors in the plan elements of the system. The monitoring process should also be set up to relate to any operational developments in the plan. Included here are decision centers that have operational authority. The 'system of concern' resources should be monitored to see their ongoing status and the level of commitment to the plan.

5.4.3. Goal Situation

From the general goals and objectives established in the learning phase, a more specific set of objectives should be worked out. This should be reduced to programs, tasks and action sequences for implementation. The reduction of goals into objectives that are measurable and attainable should take place. Those goals may be broken down into actions and tasks. Schedules may be developed with projected dates for completion of tasks, actions and objectives. The most appropriate and realistic of these plans can be chosen through the alternative assessment subprocess. In the planning of these actions, tasks and objectives, the resources needed should be noted. Coordination of all needed resources should be determined and planned. Strategies should be written down and developed into a plan.

5.4.4. Alternative Assessment

As plans for reaching goals are developed, they may be assessed. The methods to do this are discussed in Chapter 3, Section 3. Ongoing monitoring and systems analysis may assist this assessment. The attitudes of decision makers, the actors and the influence of other systems on the plans may be used in the assessment. The evaluation and synthesis of this information may lead to the determination of the preferred final plan.

5.4.5. Implementation

The initial direction that the urban open space plan will take is now known. From the indication of the commitment to be made, and general structure of alternatives, preliminary moves can be taken to establish more specific resource needs. The establishment of commitment, and more specific strategies for implementation may be developed. From past history, or similar situations, difficulties that might arise should be predictable, and if possible, simulation through a model may take place to determine problems in implementation. Public relations practices should be established, and definite criteria set down to measure progress towards final objectives or tasks. A critical path chart, or a similar management method, can be used.

5.5. Confirmation Phase

5.5.1. System Description

A clear conception of the system of concern is maintained. Evaluation of all incoming data as to changes within this system is made and turned into intelligence. The impact of all external influences is determined and evaluated, and the necessary indicators and needs of information are well established. With a knowledge of goals, programs and tasks, as well as the criteria set for accomplishment of these tasks, the description of the impact on the system of concern can be measured. Impact indicators may show what effect the plan has on the planned system.

5.5.2. Monitoring

Ongoing data are collected on all systems so that a diagnostic assessment, as noted above, can take place. The importance of continuous monitoring may be seen in this stage. Monitoring that is continuous prevents a large change in the problem or issue in the planned system from escaping the notice of the planner. If there is change, he is aware of it and may adapt. Monitoring prevents problems arising, and makes adaptation possible.

5.5.3. Goal Situation

Approval of the plan has been secured. All decision centers and actors within the process are aware of the plan and are aware that under present conditions it is the best alternative. The goals situation is always under scrutiny and adaptable if it becomes necessary to modify plan elements because of unexpected change. If the tasks cannot be completed within time sequences, a modification or rethinking of task sequences may be developed.

5.5.4. Alternate Assessment

Ongoing diagnostic assessment of the alternatives chosen takes place. This assessment is used to evaluate whether this alternative is feasible, effective and efficient as it is implemented. If it is not, the planner should be prepared to provide alternatives that are more effective and efficient.

5.5.5. Implementation

Throughout the planning process the resources that are needed for implementation have been developed. These resources may have been assigned by now, or deployed in the development of the plan. These include financial, physical and human resources.

The techniques and strategies for introducing the plan are put into practice, and the resources are committed. If bylaws are needed, or regulations need to be developed, this is done. The movement of all necessary tasks is started, thereby operationalizing the plan.

5.6. Ongoing Phase

5.6.1. System Description

Evaluation of economic, recreational and physical change takes place. The planned change is evaluated against change that was forecast.

5.6.2. Monitoring

Established indicators and surveys are used so that comparison can take place over time. Each indicator and measurement tool has been evaluated for reliability. The process of collecting longitudinal data for future use in the planning of urban open space may be important. The information gathered is supplied to the other subprocesses for evaluation. This information is to be used to help in the development of the plan, and to continue to develop and modify the other subprocesses.

5.6.3. Goal Situation

Strategic goals are firmly in place. From systems description and monitoring information, objectives, programs or tasks are modified as necessary.

5.6.4. Alternative Assessment

Changes in the plan, if necessary, are evaluated, and the most effective and efficient choice is proposed. If this is not the case, and the plan is efficient, then the plan should be noted as a successful method of implementation.

5.6.5. Implementation

This subprocess continues until in the judgment of the decision makers, or the actors, a new planning process is needed, or the planning goals have been reached. Whatever happens, the planner through his implementation subprocess keeps resources flowing into the planned system so that the plan reaches completion. If changes are needed, new resources must be established, and organizational changes to implement these new resources developed.

5.7. Conclusion

The planning system moves through time. All five subprocesses, from the initial decision to proceed, to the completed plan have importance, and each subprocess is needed. It is clear that the successful accomplishment of a plan depends on the cooperative activities of the planner and the actors involved. Both the activities and the plan are developed through ongoing strategies of the planning process.

This study has reviewed past and present planning models. Certain ideal planning models were examined. The subprocesses of these planning models suggested strengths that were found to be useful in dealing with the complexity, turbulence and ongoing change within our society.

Complexity can be dealt with by using a planning model which is able to monitor and deal with variety within society. Turbulence can be dealt with by having a process which is adaptable and can modify its objectives, or change its means to reach a goal. Ongoing change is dealt with by the provision of indicators to evaluate that change, with modification of the planning process following accordingly.

The methodology allowed the study to review a change in planning from a blueprint planning style in the 1960's to a process oriented style in the 1980's. This later style was found to be more suitable for the application to urban open space planning. This foundation was developed by focused interviews with expert urban open space planners who work within the planning system, and with actors involved with the urban open space planning process. The suggestions given by these individuals were added to the review of planning models. The resultant model offers insight into ways of controlling the impact of rapid change on the planning and implementation of a plan.

This model is a theoretical development, but it is not removed from reality. The methodology was founded upon sound usable planning theory. The experts interviewed are leaders in the field of urban open space planning. The actors interviewed are affected by implementation of urban open space planning. Their observations of how to improve and enhance the urban open space planning process were used. Because of this, the model developed may be highly practical. The model must be systematically redefined and reviewed to continue to be useful. Evident within the context of this study is the need for a new approach to each new situation. The adaptability of the proposed model may well lead to its application. This theory will, it is hoped, assist in beginning to bring order to these different situations.

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Interviews (Personal Communication)

Chamberlain, C.; (1981) A professor in the Education Faculty, University of Alberta, Dr. Chamberlain was a member of a number of pressure groups concerned with urban open space. His interest was aroused by the inefficient methods now used for planning for open space. He felt that the placement of open space in conjunction with school facilities across a major arterial roadway was the cause of the death of a young girl in Riverbend, in Edmonton. March, 25th

Curtin, W. P. (Bill); (1981) A project manager for Cadillac-Fairview when they were involved in the planning of an Area called Riverbend III in Edmonton, Alberta. He also owns a part interest in Belvedere Developments in Edmonton, Alberta, through which he is developing a "country residential environment which truly preserves the 'country' with the convenience and economics of the 'city'". Mr. Curtin is a representative of the private landowner or developer. March 24th

Ellis, Jack B.; (1981) A professor at York University, Toronto, Ontario, teaching courses in urban planning and urban regional models. Dr. Ellis was involved in the Guidelines For Urban Open Space Planning (1977) report with T. Burton and Homenuck. He is also a part time consultant in planning in the Toronto, Ontario area. August 19th

Fraser, Dick; (1981) A lawyer in the Edmonton, Alberta area who was a member of the pressure group formed over the allocation of open space in the Riverbend III development in Edmonton. Mr. Fraser was one of the original members of this group and initiated its development, along with his wife Cathy Fraser. They represent the active members of the public. March 26th

Godbey, Geoffrey; (1981) A professor at Penn State University in the recreation area. Dr. Godbey teaches courses in recreational sociology. He is concerned with the quality of the experience felt within the urban park. Dr. Godbey is a consultant. August 19th

Jaakson, Reiner; (1981) An urban planner and professor. Dr. Jaakson is the head of the planning school at the University of Toronto. He is also a consultant in Ontario. He has developed two master plans that were discussed for; Ajax, Ontario and Grimsby, Ontario. August 18th

Nash, Dianne; (1981) An assistant planner with the City of Edmonton planning department. She is involved with answering public requests for information. She also assists planners with new development areas. March 27th

Oldring, Mary; (1981) Mrs. Oldring heads the municipal section of the Urban Development Institute in Edmonton. This organization is the research arm of the major developers in Canada. It also, according to Mrs. Oldring, is a political lobby on a provincial and municipal level. She has an undergraduate degree in Pharmacy, and a graduate degree in Business Administration. March 20th

Perris, Jo; (1981) A homeowner in the Glamorgan Heights area of Riverbend III. She was a member of the pressure group that formed to try to prevent the open space allocation that was planned for this area. March 31st

Savage, Alf; (1981) A commissioner for the City of Edmonton in the Public Affairs area. The two components of this responsibility are the Planning Department and the Parks and Recreation Department. Mr. Savage was the superintendent of the Parks and Recreation Department before becoming the Commissioner. Savage represents the executive decision makers. He was a strong decision shaper in this position. March 31st

Wilkinson, Paul F.; (1981) An associate professor of geography in the Faculty of Environmental Studies at York University. Dr. Wilkinson deals only with graduate students, in an interdisciplinary program. His main area of expertise is in resource management and research of that area.

Wright, Jack R.; (1981) A professor and Chairman of the school or Urban Regional planning at the University of Ottawa. Mr. Wright was the superintendent of the Parks and Recreation Department of the City of Edmonton from 1961 to 1966. He had been the superintendent of the Parks Department since 1958. August 20th

APPENDIX A

Definition of Terms

Attitude	This is a basic point of view toward a specific value, event, or practice which arises from experiment or knowledge, and dynamically influences an individual towards a specific issue.
Administrative Staff	The civil servants responsible for ensuring that the plans and programs of the city are implemented, incorporating public opinion as well as objectives and policies of politicians.
Authority	1. This concept is related to the two parties involved in a process. A demand is rationally perceived and considered reasonable because of one party's position in the associational life of a community. A specific example is political or associational office, (Miller, 1952). 2. Consent legitimately given to actions to direct certain activities and to utilize certain resources to achieve collective purposes.
Attraction	Attractions are the physical, psychological, and social lures that are provided or take place at a recreational site.
Benefits	(recreational) Participation in recreation activities enhances or improves a user's ability to function more effectively after having participated. (Driver and Tocher, 1974, p. 87)
Conservationist	Someone who can be unhappy anywhere, but it is better if he is unhappy out there than in here, where most people live. (Smith, 1974, p.44)
Data	A representative of facts or ideas taken from observation of real world phenomena in a formalized manner, (So et al, 1976, p.91; Roberts, 1974, p.63)
Decision Shapers	Those persons whose attitudes and opinions weigh heavily in the calculations of decision makers. (Mott, 1970)
Demand	A concept at present thought of as being the number of people demanding a service. It is in most cases measured by economic analysis and related to cost and time.
Demand	In psychological terms this is a behavioral tendency that will influence the direction, persistence, and intensity of specific behaviors prompted by that tendency. (Driver, Brown, 1975)

Developers	These are business people whose primary interests lie in the planning, development and management of specific sites for profit. (Burton, 1978, p.7)
Entrophy	This is the running down of systems. In this state all energy differentials between different elements of a system disappear and reach a common level. In a living system this would be the condition of death. Negative entrophy and information appear to be the same thing. Therefore an increase in information has the same effect as decreasing entrophy. (Letterer, 1973, p.5)
Equifinality	In closed systems, if an initial state can be defined, the final state can be unequivocally determined. In an open system, an initial state can have several possible final states. Furthermore, the same final state may be arrived at from several initial starting places. (Litterer, 1973, p.6)
Experience (recreational)	This is the sum of participants, mental, spiritual, physiological and other responses to a recreational engagement. The experience is satisfying or non-satisfying. (Driver) The satisfying experience is usually an indication that the attraction was successful in achieving its purpose.
Evaluation	This is the process of taking different possible courses of action, setting them side by side and drawing a conclusion as to their respective merits. If in a continuous planning process, this will not be a one 'shot' activity. (Roberts, 1974, p.125)
Force	This is the reduction, limitation, closure or even total elimination of alternatives to the social action of another person or group. (Bierstedt, 1950, p.33)
Formal Decision Makers	The elected officials; eg. the Mayor and the City Council in an urban area.
Goal	A goal is an orientation. It provides the community with a direction. It should be expressed in ideal terms. (Gold, 1980, p.213; Wright, 1981)
Hierarchy	One system may contain within it several other systems. Complex systems can be 'decomposed' into smaller, and usually less complex systems for analysis. (Litterer, p.5)

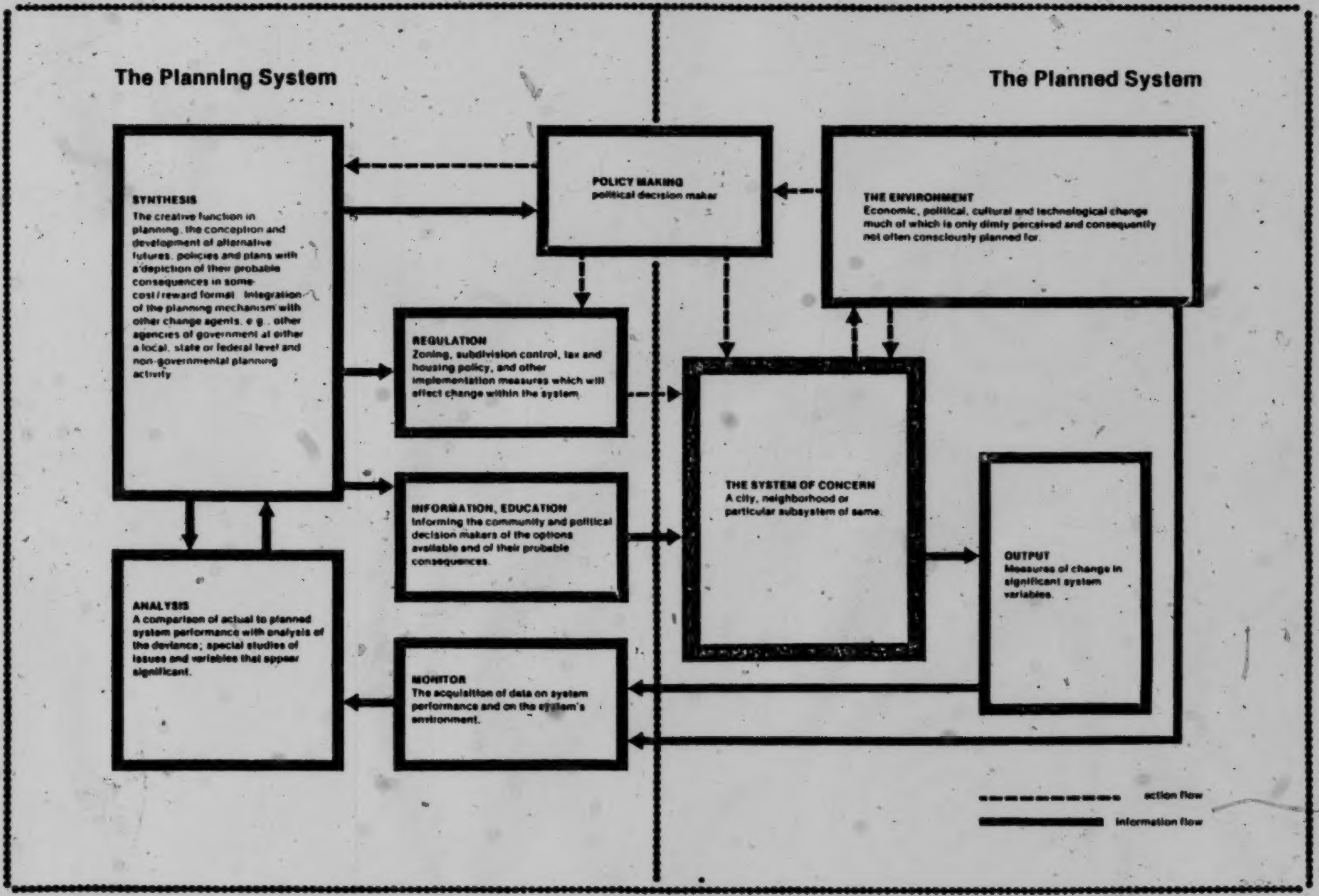
Influence	The scope that one actor has over another, without resorting to either a tacit or an overt threat or severe deprivation. (Adapted from Bachrach and Baratz, 1970)
Information	This is what data means to an agency when passed through the 'fact filter' of a brain or through some aggregation manipulation, permutation, so that some level of understanding can be reached. It is usually presented in a convenient form without evaluation, comment or discussion. (So et al, 1976, p. 22; McLoughlin, 1973, p. 230; Roberts, 1974, p. 63)
Intelligence	The ability of the system to seize essential factors from complex information. It may include instructions, opinions, values, feelings, as well as implications for the making of policies, and for the choice between alternate policies, and what might happen if policies are put into effect as programs. (So, et al, 1976, p.92; McLoughlin, 1973, p.230)
Interest Group	This term in this work is used interchangeably with pressure group; an actor who does not participate directly in the acquisition of power, or in its exercise; he acts to influence power while remaining apart from it; he exerts pressure on it. (Duverger, 1972)
Legitimacy	1. The sanctioned rights of some persons to make decisions and to draw on certain capacities of 'rightfulness' possessed by the maker of decisions. 2. The approval rendered by certain groups in the community, by certain persons, or by all the people. (Miller, 1952; Burke, 1974)
Means	These are the policies, programs and practices, as well as standards, to reach objectives and goals.
Neighborhood	It is the smallest building block of the town. It contains a homogeneity of population in terms of either race, economics, social patterns, religions, educational backgrounds, income or value judgments. It usually has natural or man made boundaries, (Hjelte and Shivers, 1972, p.28). One problem with the present neighborhoods is a high mobility in and out, causing lack of intimacy, (Wilkinson, 1981).
Objective	This is the stated purpose of a planning unit or agency for which criteria to measure whether the purpose is reached can be set.

Opportunity (recreational)	This is a combination of physical, biological, social and managerial conditions that give value to a place, (Clark and Stanley, 1979, p.1). An opportunity implies that consumers have preference to guide choices with options to choose from, (Driver and Brown, 1978, p.25)
Play	An activity in which an individual has a recreation experience; a spontaneous act of the organism, highly enjoyable. Playful behavior is concerned with creating and solving problems, or processing information. It involves such behavior as exploration, investigation and problem solving; also, such personality attributes as curiosity, playfulness, humor and creativity, (Csikzentmihalyi, 1975, p.42; Ellis, 1972, p.6).
Playground	An area used specifically for outdoor recreation.
Power	1. A has power over B to the extent that A can get B to do something that he would not otherwise do, (Mott, 1970). 2. The relationship that exists in power is as follows: it is relational, it is a demand rationally perceived, there is a conflict of values, and threat of severe sanction, (Bachrach and Baratz, 1970).
Practitioner/Administrator/Management	This is the body responsible for site development, planning and control.
Pressure Group	See interest group.
Recreation	This is not an activity but a particular type of human experience which finds its source in intrinsically rewarding voluntary engagements (mental and physical) during non-obligated time, (Driver-Brown, 1975).
Recreation Need	This is the difference between current recreation demand, and the existing supply of opportunities expressed in terms of land facilities or programs.
Recreation Site	This term describes any site out-of-doors, including fields, passive and active parksites, pocket parks, and any other site used by people wishing an outdoor recreational experience.
Resources	This term describes the incidence of such capacities as wealth, time, respect, moral rectitude, reciprocal obligations, and access to intra-or extra-community persons and groups of prestige. (Miller, 1952, p.155)

Social Groups	This is a number of persons between whom exists a psychic interaction and who are set apart by that interaction in their own minds, and in those of others as a recognized entity. (Dictionary of Sociology, 1967).
Socio-economic Characteristics	Those characteristics which identify individuals as belonging to certain social groups in society.
Socio-psychology	This is the study of 'an individual' as a participant in a social environment. (Iso-Ahola, 1980, p.40)
System	"A system is a set of interconnected parts. But each part may be seen as a system itself-and the whole system may be regarded as but one part of a larger system." (McLoughlin, 1969, p.40)
Turbulence	This term is characterized by complexity as well as rapidity of change in causal interconnections in the environment. (Terrybery, 1968, p.591)
Turbulent Field	This is the accelerating rate and complexity of interactive effects which exceed the component system's capacities for prediction, and hence, control of the compounding consequences of their actions. (Terrybery, 1968, p.591)
User	Any individual who enters or uses open space for the purpose of experiencing or benefiting from the attractions on that site.

APPENDIX B

Ferguson's Diagram of the Planning Process


The Planning System
The Planned System
SYNTHESIS
The creative function in planning, the conception and development of alternative futures, policies and plans with a depiction of their probable consequences in some cost/reward format. Integration of the planning mechanism with other change agents, e.g., other agencies of government at either a local, state or federal level and non-governmental planning activity
POLICY MAKING
political decision maker
THE ENVIRONMENT
Economic, political, cultural and technological change much of which is only dimly perceived and consequently not often consciously planned for.
REGULATION
Zoning, subdivision control, tax and housing policy, and other implementation measures which will affect change within the system.
INFORMATION, EDUCATION
Informing the community and political decision makers of the options available and of their probable consequences.
THE SYSTEM OF CONCERN
A city, neighborhood or particular subsystem of same.
OUTPUT
Measures of change in significant system variables.
ANALYSIS
A comparison of actual to planned system performance with analysis of the deviance; special studies of issues and variables that appear significant.
MONITOR
The acquisition of data on system performance and on the system's environment.
action flow
information flow

55. A model of the urban planning process.

APPENDIX C

Content Analysis

CONTENT ANALYSIS

The second component of the Research method was content analysis as developed by Earl R. Babbie (1979, p.233-253). This took the form of an analysis of books and articles identified in the first component of the research method. These volumes were first reviewed for manifest content. This method, as discussed by Babbie (1979, p.239), is to count the number of times a word that related to the study topic appears. To measure the average number of appearances per page determines the importance of this word. This showed the researcher that, although in most cases similar words such as 'alternative' or 'goals' were mentioned, they often had different meanings. Because of this, and because of the need in the study to find a deeper and richer meaning from the literature in reference to planning modes, latent analysis was employed. Latent analysis is described by Babbie (1979, p.240) as the review of an entire phrase, paragraph or article to develop an understanding of what the author was saying. This took the form of reading an entire article or book and identifying the major intent of that communication. It if dealt with open space, the author's definition of open space was noted. Also noted was the approach taken in describing the reason for providing urban open space. It the article or book dealt with planning, the author's thoughts concerning planning were noted.

In using content analysis in this manner, it would found that this method may not have been relevant for this type of study. The reliability of the sources used, and their application to the field, were not ascertained. The author could not determine the amount of use or general acceptability of each planning theory being studied. Therefore it was difficult to define a sample, and further, to even define a universe from which the sample was taken. The resultant identification, then, was of areas that might be found by using a critical evaluation of the literature. A number of determinations were made.

First to be determined was the number of steps in the planning process identified by the author and their comprehensiveness. Five criteria were used as a basis for comparison of authors' views of the process. The first was 'system description'. This was concerned with how the author determined what was the planned system. The second was 'goal identification;, concerned with whether or not the author felt that goals were relevant or necessary to the planning process. The third was the generation of alternatives which focused upon the ways in which the author evaluated and chose the best plan to achieve success. The fourth was 'implementation strategies', concerned with what resources the author felt were necessary to make his plan possible. Finally, there was 'monitoring' which focused upon the author's views as to the necessity to watch change within the planning and planned system.

The second point to be identified was the author's interest, or lack of interest, in monitoring, including views as to the place in the planning process at which monitoring should occur. The third element to be derived was whether there was any indication of the need for development of a different planning model in the future. In the analysis, this concept would indicate means that might improve present planning practice.

This type of research has a number of advantages. The first is its economy. A second advantage is that an iterative review of the articles provides the researcher with a clearer conception of the latent content contained in the articles and books. A disadvantage of this type of research is the amount of time between the articles and books being written, and the time when they are published. By the time articles and books are published, technological or social change may have affected the author's proposals.

In summation, this method did help in identifying the problems as well as the steps in the planning process. The method, however, was not strong enough to find solutions to the problems, and more reliance was placed on the literature review and the focused interviews.